Aalto University
School of Business

TALENT MANAGEMENT IN A CHANGING TECHNOLOGICAL ENVIRONMENT

Human capital in the energy sector of Finland

Master's Thesis
Allu Pyhälammi
Aalto University School of Business
Master's Programme in Corporate Communication
Fall 2019

Aalto University
School of Business

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of master's thesis

Author Allu Pyhälammi

Title of thesis Talent management in a changing technological environment

Degree Master of Science in Economics and Business Administration

Degree programme Master's Programme in Corporate Communication

Thesis advisor(s) Kirsi Eräranta

Year of approval 2019 **Number of pages** 62 **Language** English

Abstract

The objective of this study is to research talent management in the energy sector of Finland. While studies exist on how the energy field is changing as a whole, the research is mostly concentrated on its product development and technological solutions. At the same time, human resource and people management studies have emerged to a degree in technology-oriented areas, due to the realization that employees are a key resource regardless of the area. The benefit of this development is that employees are paid more attention to and their talents are appreciated.

People management studies in the energy field are scarce, however, leaving a research gap this study aims to fill. This gap needs to be explored, due to the fact that the technological industry, including the energy field, is continuously expanding. The amount and importance of future solutions in this industry will require a matching amount and quality of people to implement and supervise those solutions. To this end, the position and value of employees needs to be highlighted, to ensure that the technological industry will remain an appealing area for future professionals.

The research problem of the study is to explore and understand how talent is acquired and managed organizations in a rapidly changing technological environment. The research problem was addressed with two research questions. First, firms' prospective key talent's needs and challenges are identified and addressed. Second, the study aimed to look into how firms manage their operations in terms of new and existing talent in a changing innovation environment.

A diverse approach was used to conduct the qualitative research in this study. First, 160 job advertisements from the energy sector in Finland were collected and analyzed. Second, leaning on a semi-structured preliminary interview, a questionnaire with 10 open-ended questions to energy businesses was conducted. The resource-based view (RBV) framework (Barney, 1991) was used as the theoretical lens in the analysis of the factors behind energy businesses' methods in acquiring and maintaining talent in their organization.

The study shows that people in energy organizations are primarily managed in a way that aims to respond to the challenges of the changing environment. Searching for key talent includes firms expecting broad knowledge from their future employees on diverse areas also outside of the industry's traditional functions. In addition, firms are committed to providing tools for learning and developing field-specific skills needed in the industry. Energy businesses are seeking to increase the value of their human resources by defining and implementing new expertise areas in their business. To this end, firms are prepared to offer retraining and job rotation for their existing personnel, while simultaneously working with their new employees to bring fresh expertise to the business. However, creating additional ways of retaining and gaining advantage from their existing employees, as well as developing the image of the industry in terms of attaining new talent, are areas that could still be further developed.

Keywords talent management, people management, resource-based view, energy sector, human resource management, retraining, talent acquisition

Aalto-yliopisto
Kauppakorkeakoulu

Aalto-yliopisto, PL 11000, 00076 AALTO
www.aalto.fi

Maisterintutkinnon tutkielman tiivistelmä

Tekijä Allu Pyhälammi

Työn nimi Talent management in a changing technological environment

Tutkinto Kauppatieteiden maisteri

Koulutusohjelma Master's Programme in Corporate Communication

Työn ohjaaja(t) Kirsi Eräranta

Hyväksymisvuosi 2019 **Sivumäärä** 62 **Kieli** Englanti

Tiivistelmä

Tutkimuksen tavoitteena on tarkastella kyvykkyyksien johtamista Suomen energia-alalla. Energiasektorin kehittymisestä on yleisesti olemassa tutkimuksia, mutta nämä tutkimukset koskevat tavallisesti alan tuotevalikoimaa tai teknologisia ratkaisuja. Samanaikaisesti, tutkimukset koskien ihmisten johtamista teknologisilla aloilla ovat hieman lisääntyneet, johtuen yhä suuremmasta ymmärryksestä ihmisten tärkeyttä kohtaan. Tämän kehityksen seurauksena työntekijöihin ja heidän kykyihinsä kiinnitetään yhä enemmän huomiota ja arvostusta.

Energia-alalla ihmisiin kohdistuvat tutkimukset ovat edelleen harvinaisia, muodostaen tutkimusvajeen. Tämä tutkimus pyrkii tuottamaan tälle alueelle lisätietoa. Tätä tietoa tarvitaan, koska teknologia-alan, energia-ala mukaan lukien, laajentuu jatkuvasti. Tulevaisuuden ratkaisujen määrä ja tärkeys tulee edellyttämään vastaavaa määrää laadukasta henkilöstöä toteuttamaan ja valvomaan kyseisiä ratkaisuja. Tätä silmällä pitäen, työntekijöiden asemaa ja arvoa tulee korostaa, jotta voidaan varmistaa teknologia-alan pysymisen houkuttelevana tulevaisuuden ammattilaisille.

Tämän työn keskeinen tutkimusongelma on tarkastella, kuinka ihmisiä saavutetaan ja johdetaan organisaatioissa, jotka ovat osa nopeasti muuttuvaa teknologista ympäristöä. Tutkimusongelmaa lähestytään kahden tutkimuskysymyksen avulla. Ensimmäinen tutkimuskysymys pyrkii tunnistamaan ja määrittämään energia-alan yritysten potentiaalisten työntekijöiden tarpeita ja haasteita. Toinen tutkimuskysymys hakee vastauksia siihen, miten yritykset johtavat toimintaansa niin uusien kuin jo olemassa olevien kyvykkäiden työntekijöidensä suhteen muuttuvan innovaatioympäristön kontekstissa.

Tässä laadullisessa tutkimuksessa käytettiin hyödyksi monipuolista aineistoa. Ensin kerättiin ja tutkittiin 160 energia-alan työpaikkailmoitusta. Tämän jälkeen, aiempaan avoimeen teemahaastatteluun nojaten, muodostettiin avoin sähköinen kysely energia-alan yrityksille. Resursseihin perustuvaa näkökulmaa (Barney, 1991) käytettiin teoreettisena viitekehyksenä tutkimusaineiston analyysissa, jossa käsiteltiin energia-alan yritysten kyvykkäiden ihmisten etsimiseen ja johtamiseen liittyviä tekijöitä.

Tutkimus osoittaa, että ihmisiä energia-alan organisaatioissa johdetaan pääasiassa tavalla, joka pyrkii vastaamaan alan muuttuvan ympäristön asettamiin haasteisiin. Avainkyvykkyyksiä etsiessään yritykset odottavat laajaa tietämystä myös sektorin ulkopuolisilta alueilta. Yritykset ovat lisäksi sitoutuneita tarjoamaan oppimiseen ja alakohtaisten taitojen kehittämiseen tarvittavia työkaluja. Energia-alan yritykset tavoittelevat ihmisistä koostuvien resurssiensa arvon kasvua määrittelemällä ja ottamalla käyttöön uusia asiantuntija-alueita liiketoiminnassaan. Tätä tavoitetta tukeakseen, yritykset ovat valmistautuneet tarjoamaan uudelleenkoulutusta ja työkiertoa olemassa olevalle henkilöstölleen, hyödyntäen samanaikaisesti uusien työntekijöidensä kyvykkyyksiä. Yritysten olisi kuitenkin syytä kehitellä vielä lisää keinoja, joilla he voisivat pitää kiinni ja parhaiten hyötyä olemassa olevista työntekijöistään, sekä kehittää alan imagoa uusille kyvykkyyksille houkuttelevammaksi.

Avainsanat kykyjen johtaminen, ihmisten johtaminen, hr, energia-ala, uudelleenkoulutus

TABLE OF CONTENTS

LIST OF FIGURES, TABLES & APPENDICES

ACKNOWLEDGEMENT

This thesis is a part of the Smart Energy Transition project (314325), tackling the global disruption of energy markets by creating pathways for Finland to profit from the energy disruption. Smart Energy Transition thanks the Strategic Research Council (SRC), in collaboration with the Academy of Finland, for their continuing support for the project.

1 INTRODUCTION

1.1 Study background and motivation

> *"Even though there are many progressive businesses in the field, in this particular company they have been able to communicate their strategy, vision and mission in a way that everyone has been able to identify with and commit to them, all the way from the technicians. They have somehow been able to turn it into a positive for them that they are facing a significant challenge in the form of the energy transition. Successful communication, of course, has a lot to do with it as well, but the fact that they have been able to get ahead of the change and actually embracing it in a systematic fashion." – Energy industry professional, Finland*

The energy field is in transition and the industry plays an important role in society because it provides fuel for economic production, e.g., transportation and manufacturing goods. The rise of renewable energy has widely been noted in future visions for the environment (Warner & Jones, 2017), with the industry moving away from traditional energy sources such as coal and fossil fuels (Rinne et al., 2018). In addition, the current socially prevailing global trend toward more sustainable living causes changes within the industry (Bedenik, 2018). Due to this development, it is natural that producers of mass energy—large- and mid-sized energy companies—have noted the need for entering new areas and expanding their business models into fields they may not previously have occupied (Wang et al., 2015).

Success in the energy sector requires structured planning on how to take advantage of valuable resources. These resources include human capital—a scarcely discussed area within this industry. The role of human resources in the energy sector is essential, in the sense that such resources are the engine for developing and applying energy policies, as well as for creating innovations, knowledge, and technologies (Angheluta et al., 2014). Furthermore, industry-specific practices and regulations impose particular demands on the employees within the industry. For instance, the nuclear energy industry both demands high performance standards and takes a considerable amount of time to develop its unique specialists (International Atomic Energy Agency, 2009).

When exploring organization and management studies, it is evident that existing studies on human resources in the energy sector are few and far between (Angheluta et al., 2014). The lack of specific information about energy sector personnel presents a need to explore new ideas in the industry.

While a selection of studies on human resources and people management exists within the broader field of technology (Sridhar, 2013; Grenny & Maxfield, 2016; Havu, 2016), the energy sector, as its own specialization area, should be further investigated in academic research.

Historically, in determining the factors that enhance competitive advantage, things that could be considered environmental or measurable have been taken into account. Porter (1990) claims that firms that face pressure and challenges due to competition from other firms, also gain competitive advantage from this pressure and challenging situation. This means that, as with human beings, threatening circumstances may propel firms to outdo themselves, and thus, also their competitors.

Previous studies have indicated that organizations that effectively execute talent management processes are still somewhat rare. As Mäkelä et al. (2010) state, while some knowledge about talent management practices exists, more information about the actors and motivators of talent management themselves would benefit people management studies. Even though a significant amount of knowledge about people management, in general, already exists, we lack knowledge about how organizations view, comprehend, and classify their core human resources and competencies. We also need more information about how they develop and maintain these resources and competencies in changing environments.

Material things, such as funds, technologies, and physical locations, have traditionally been valued, especially in industries in which end products rely on these attributes (Ghemawat, 1986). While the importance of these aspects should not be undervalued, the focus should also be placed on human capital in fields in which it is rarely discussed (Stiles & Kulvisaechana, 2003). This study focuses on human capital as a source of competitive advantage in the energy sector. Specifically, the focus is on the dynamics and challenges of talent management in the constantly evolving macro environment of the energy sector.

1.2 Study objective

The aim of this study is to investigate what kinds of prospective employees energy businesses are looking for and how these employees are managed within them. This study seeks to investigate the practices of energy businesses in attaining and retaining employees—in other words, their existing and future talent—while, at the same time, keeping in mind the requirements of the field. The purpose of this thesis is to encourage energy businesses to explore new ways of managing their talent, using results of sustainable competitive advantage.

For this thesis, a qualitative research method presented the most natural option with respect to finding out the inner workings of an organization. It was assumed that, in the energy industry, talent management and acquisition is an area that could benefit from being looked at from a new point of view, exploring new and emerging expertise areas within the industry. Hence, the research problem that this study addresses is:

How do organizations acquire and manage talent in a rapidly changing technological environment?

This research problem is based on the specific environment of the energy industry, which is currently under fast-paced transition due to new innovations and technological solutions. These changes have caused a need for managers to react to the demands and needs of employees. The demand for new types of talent could cause disruption between companies while the increasing need for new skills could put pressure on firms to ensure that their employees are capable.

The research problem can be further broken down into two more specific research questions, as follows:

1. What are the needs and challenges of key talent that firms are looking for?
2. How do firms manage their new and existing talent in a changing innovation environment?

In order to respond to these research questions, this study investigated 160 job advertisements and 11 energy businesses in the industry with the help of a preliminary pilot study interview. By analyzing these advertisements and questionnaire results, a view about the mindset of these organizations was created through emerging themes. These themes were then assigned attributes using the Valuable – Rare – Imperfectly Imitable – Non-sustainable (VRIN) model, assessing the qualities that companies in the energy sector are looking for from their employees.

1.3 Thesis structure

In the literature review, various academic publications in the fields of talent management and human resource management are explored. The second chapter focuses on defining key terms, such as talent acquisition and human capital. The third chapter dives into the resource-based view as a theoretical lens. The fourth chapter looks into the state of previous studies on talent and people management in the energy sector.

The fifth chapter presents the empirical study conducted for this thesis, while the sixth chapter presents the findings of the analysis and the seventh chapter discusses the findings. Finally, in the eighth chapter, conclusions drawn from the study are presented and the study's limitations, implications for businesses, and ideas for future research are discussed.

2 TALENT MANAGEMENT IS LEADING PEOPLE

Talent management is an area initially formed in the field of people management and human resources. The area of talent management explores identifying what it means to be a talent in a firm, how firms recognize who talent are, what attributes a talent has, and what kinds of expectations a firm has for them. Talent management was chosen as the field in this study due to the fact that it represents a more rare and specific area than human resource management in general.

The aim, in terms of talent management, was to deepen the field of human resource management to include how employers view talent and how this affects the recruitment and management of employees. Academic literature on talent management, especially in the technology industry, is scarce, often limited to media articles such as blogs and consultancy reports. This naturally creates a challenge in handling the subject with sufficient validity. However, it also indicates that this area is in need of more research, especially in field-specific contexts.

2.1 From employee to talent

Human resource management (HRM) forms the broad theoretical framework of this study. Human resources are at the center of more contemporary views of people management, human capital, and talent management. Two theoretical human resource management models are worth introducing because they clarify the basis of this study and provide a look into how talent is perceived. These models also provide inspiration for later ideas and models presented in the study.

First, there is the integrative Human Resource Management Model by Martín-Alcázar et al. (2005; Figure 1), which works as a basis for understanding strategic human resource management in the future. This model also entails segments that depict the pre-existing talent management ideas, especially in the parts showcasing HRM strategy, individual effects, and human capital.

In the model, it can be seen how human capital is central to diverse functions of an organization. It is both a cause and a result of an organization's HRM strategy, which entails many elements belonging to talent management (Martín-Alcázar et al., 2005). Training and development,

evaluation, as well as compensation and recruitment, are among the attributes relevant to talent management, affecting not only the HRM strategy of a business but also its overall strategy.

An HRM strategy has direct consequences on three different types of effects: organizational, social, and individual. Especially the latest of the three, individual effect, consists of many crucial elements related to talent management, such as performance, satisfaction, and commitment. In the model, it is precisely these attributes that form the basis of human capital in HRM.

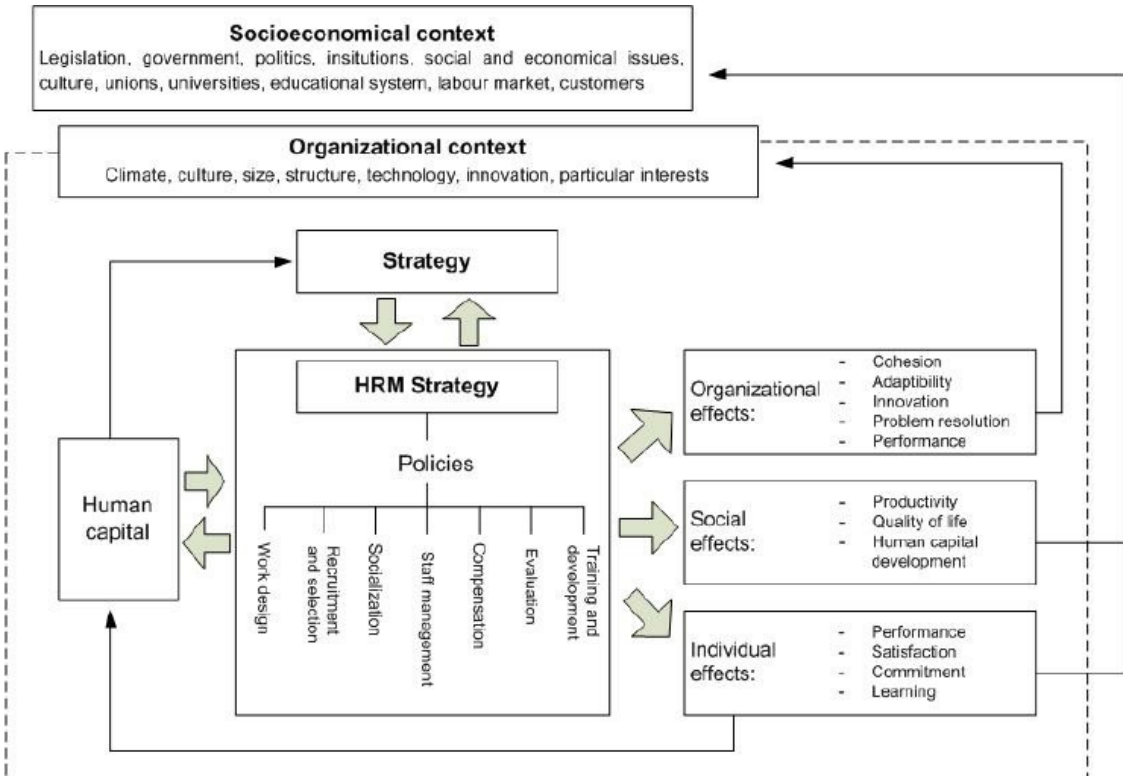

Figure 1. Integrative human resource management model (Martín-Alcázar et al., 2005).

Talent is an idea that needs to be clearly defined in an organization in order to ensure that everyone is on the "same page" in how they perceive the term in their unique setting. Inherently, the term can mean different things for different people. In the Global Talent Portfolio (Morris et al., 2016; Figure 2), four dimensions of global talent are explored. This figure helps to explain what talent in an organization could mean by stating how location and internationality affect what the word "talent" actually means. The attributes of talent differ depending on whether the context is local or international and on whether the company in question represents the headquarters of a corporation, a smaller company, or a regional office.

The model presents four dimensions: corporate, subsidiary, international, and local (Morris et al., 2016). In local and subsidiary fields, in particular, talent management seems to be something that is

more focused on talent in an individual manner. In corporate and international areas, however, talent seems influenced more through organization-wide initiatives and larger groups. Even though companies vary significantly, depending on whether they are international or national, and even though most of the organizations studied here are national companies, it is somewhat effortless to draw conclusions about local companies in terms of their operations based on this model (Morris et al., 2016).

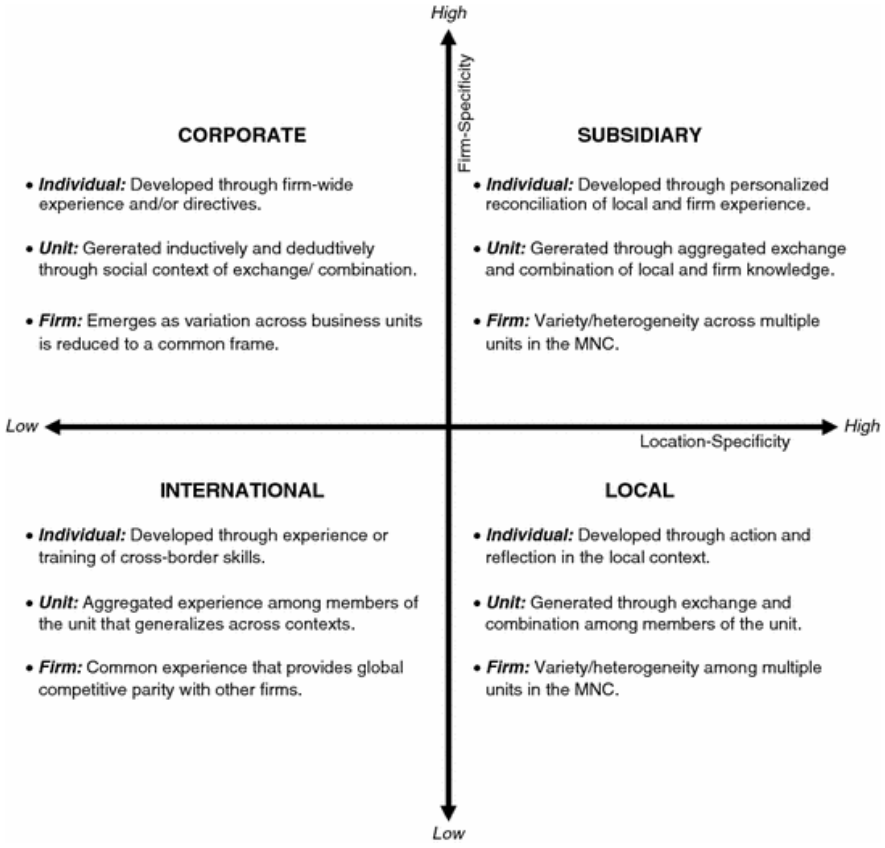

Figure 2. Global talent portfolio (Morris et al., 2016).

Human capital is a term worthy of consideration in relation to human resource management and talent management. This term is seen as something that is always embedded in either the individuals or the context in which it is formed (Morris et al., 2016). Becker (1993) suggests that human capital is developed and maintained by an organization itself, reflecting information on unique company cultures, routines, and systems—factors that are not directly applicable to another company.

Human capital, as a term, may sound quite financial and technical—a block of people who are kept in a vault and used if they are found to be valuable. Theodore Schultz (1961) notes, in his presidential address to the American Economic Association, that people should not to be equated

with property and marketable assets, indicating that "slaves" are not a commodity in the modern age (Goldin, 2016).

2.2 Definitions of talent management

Merriam-Webster dictionary defines talent primarily as a person's ability or aptitude toward something, often of an athletic, creative, or artistic nature. Talent can also be the natural attributes of a person or, in fact, the persons themselves. Talent has been proposed to be specifically *innate*, i.e., internally born, as opposed to being mostly *acquired*. This implication has many far-reaching consequences for acquiring, determining and developing talent in business (Meyers et al., 2013). Supporters of the idea of innate talent do not entirely deny the effect of practice and training, while advocates of acquired talent do not completely relinquish the idea of internal attributes impacting performance.

When considering the origins of talent, there could be a case made for whether the birth of talent in a human being happens in a nature vs. nurture setting—i.e., whether the attributes viewed as talent in an individual are based on the individual's innate abilities or are mostly the result of the surroundings and atmosphere in which this individual has spent the majority of his/her time (Meyers et al., 2013). According to scholars who are in favor of acquired talent, variance in talent is more seen as a result of nurture than nature. The nurture aspect of talent management is also represented in, for instance, Weiss and MacKay's book *The Talent Advantage* (2009), where the authors suggest that organizational leaders must not only engage themselves in the recruitment, retention, and development of top talent but that this should also actively be complemented with a strong succession planning strategy. What this means, in effect, is that successful organizational leaders should be able to create a culture from within the company that nurtures leadership (Ighodaro, 2010). The action of nurturing talent is a central point in the resource-based view's VRIN model.

Some researchers have argued that acquiring talent is affected by high-level competencies. These competencies are seen as meta-competencies (Briscoe & Hall, 1999). which enable personal development and adjusting to new surroundings (Briscoe & Hall, 1999; Lo Presti, 2009). These meta-competencies also facilitate common knowledge (Schmidt & Hunter, 1993), learning (Briscoe & Hall, 1999; Lo Presti, 2009), and emotional intelligence (Dries & Pepermans, 2007; Meyers et al., 2013).

Talent management as a term has not for a long time had a very strong definition, or a clear concept. Consultants at the US-based consultant agency McKinsey & Company used the term in

War for Talent in 1997, causing it to take off (Michaels et al., 2001; Axelrod et al., 2001). In 2006, Lewis and Heckman identified three central ways to view talent management. The first is to view it "simply" as a substitute for human resource management, focusing on studying, for instance, recruitment and leadership development. Second, some see it through the development of talent pools, focusing on the progression of employees through positions (Lewis & Heckman, 2006, p. 140).

In comparison with the first view, this outlook on talent management provides, at least, a somewhat different lens from which to understand the term than HRM. The third option looks at talent management as being, almost literally, the "management of talented people." This view suggests that jobs in an organization are given to the most talented, top performing people, while the average talent should be "managed out" (Michaels et al., 2001). While this study does not suggest singling out average talent, the third view does generally seem to be the most interesting one for future studies, and most relevant one for businesses in a changing industry. Thus, the management of talented people is the primary perspective from which to view the data of this study.

Collings and Mellahi (2009) also identify an emerging fourth view, which underlines identifying key positions as opposed to particular talented individuals. These key roles would have the possibility to significantly impact an organization's competitive advantage (Boudreau & Ramstad, 2005). In a definition from the early 2010s, talent management is seen as a set of practices that are implemented in organizations (McDonnell et al., 2010), referring to how organizations attract, select, develop, and manage employees in an integrated and strategic way (Scullion et al., 2010).

Collings and Mellahi (2009, p. 304) define *strategic talent management* as "activities and processes that involve the systematic identification of key positions which contribute to the organizations' sustainable competitive advantage". According to Coyne's (1986) definition, for a business to have sustainable competitive advantage in its respective industry, it has to own an industry-specific attribute that is a *key buying criterion* for its market. Collings and Mellahi (2009) also give credit to *talent pools*, consisting of high potential employees, in filling the key positions that contribute to organizations' sustainable competitive advantage. These definitions point to the conclusion that, similarly to strategic human resource management, the emphasis on strategic roles seems to be a crucial element of talent management.

Talent management theories have usually been derived from the assumption that maximizing the talent of employees is a way to increase sustained competitive advantage (Scullion et al., 2010), resulting in talent management becoming thoroughly linked to human resource management

practices in organizations, with the goal of increasing business performance (Farndale et al., 2010; Al Ariss et al., 2014).

2.3 Talent acquisition and development

Talent acquisition is a key ingredient for going forward in the talent management process. Developing acquired talent translates into managing this talent later in the process. The talent management process can be depicted through an operations and supply chain management perspective (Cappelli, 2008), with the following steps portraying its principles:

1. *Manage Risk by buying*
   For a business, an extensive reserve of talent waiting in the wings can be expensive. Businesses should consider how they use their valuable resources in—talent management should be treated as an asset, not a chore.
2. *Talent Demand's uncertainty*
   The loss of demand is practically unavoidable and, as such, smart businesses adapt to it. Dividing development programs into shorter units, such as specialized courses, or to create an organization-wide talent pool is a possibility in handleding the situation.
3. *Improve the Return on Investment in Developing Employees*
   Improve the payoff for employees by getting them to share in the costs of development, including proposing additional volunteer assignments. At the same time, maintain relationships with former employees in the hope that they may one day return your investment in their skills.
4. *Preserve the Investment by Balancing Employee–Employer Interests*
   Often, the main reason that the best employees leave is that they find a better opportunity somewhere else. This makes talent development a goal that can easily erode. This should be avoided finding ways for the employer and employee's needs meet in a way that brings both parties value.

Cappelli (2009, p. 664) states that "every talent management process in use today was developed half a century ago," implying that new ones need to be developed to meet the needs of today (Ibrahim & Zayed, 2018). Talent management processes vary between organizations and, usually, *talent development* is an important step in the process.

How, then, do talent acquisition and talent scouting differ from talent management? Boudreau et al. (2016) define talent acquisition as consisting of two alternative methods: (i) Engaging HR to acquire employees or (ii) engaging procurement, i.e., the organization's function that buys the

products or services it needs from other organizations, to acquire contingent workers. They also coin the operating managers as talent's "ultimate consumers," indicating that they should primarily choose between these two methods, which could also be called "sourcing channels," to attract their talent (Boudreau et al., 2016).

In the case company that was investigated in this particular study, Boudreau et al. (2016) find that the ManpowerGroup, a U.S.-based recruitment organization, aligned the workforce mix more efficiently into its strategy by optimizing different talent acquisition channels, the number of workers reporting to a particular manager, and workforce mobility. Srivastava and Bhatnagar (2008) consider talent acquisition's most significant attribute to be attracting people with the right skill set and competencies who also fit the needs and culture of the organization.

A prominent benchmark of talent management is in the field of professional sports. *Talent scouting* is the center of sports organizations' fountain of knowledge, and has been for almos a hundred years. Subsequently, the talent scouting system used in sports has translated into practices in various business environments (Radicchi & Mozzachiodi, 2016). This is not difficult to imagine because business organizations have often had an athletic type of mentality (i.e., "survival of the fittest," competition)—mostly healthy, sometimes unhealthy. Many attributes in the business world have been influenced by sports.

In a study by Radicchi and Mozzachiodi (2016), researchers browsed and visited a significant number of websites and platforms that seemed to offer sport-talent scouting services. In this process, they found a specifically football-oriented social platform start-up, called FB Player - Social Football Talent, founded in April 2014 in Italy. The mission of this social platform is "to allow coaches and scouts to discover talent and unknown football champions."

These researchers also found that new media, generally, is used to pursue two main purposes: (i) to support the traditional "on-field" scouting activities and (ii) to discover unknown talent (Radicchi & Mozzachiodi, 2016). It is precisely this action of "discovering unknown talent" that is a worthy and interesting subject to investigate. As Radicchi and Mozzachiodi (2016) state, new media platforms do not necessarily change how scouts perceive new talent—instead, these platforms allow talent to be seen from different perspectives, and to be found through further online channels.

Talent pools are often the most common expression of talent management. Talent pools usually consist of 10–20% of an organization's staff, as the business consulting company McKinsey defines it (Michaels et al., 1998). A talent pool usually entails the top professionals of an organization, who

have a solid performance histroy, with a key factor being their ability to move to higher positions within the company (Stahl et al., 2007).

Talent pools can be seen, according to Boudreau and Ramstad (2005), as certain jobs or abilities in which a 20% increase in quality could make all the difference to organizational success (Boudreau & Ramstad, 2005). These "pivotal talent pools" should be a key focus of attention in HR and strategic leaders' agenda. Collings et al. (2009) also make a similar type of argument—that certain key employees are able to make the most significant impact on organizational performance.

3 COMPETITIVE ADVANTAGE THROUGH STRATEGIC PLANNING

The resource-based view (RBV) was chosen as the theoretical framework for this study because it examines an organization using an "inside-out" approach (Prahalad & Hamel, 1990). RBV places emphasis on resources—both tangible and intangible—of a business, stating that the value needed to gain competitive advantage exists inside a firm's resources. Here, employees play a significant part as one such key intangible resource. This study's main focus was on employees within the energy sector, for which this approach was considered to be appropriate. Furthermore, academic literature on RBV states that the approach is the prevalent theoretical lens for the study of talent management (Tetik, 2016).

The RBV framework contains several key insights relevant to this study. One of these insights is the VRIN model, developed by an American professor in strategic management, Jay Barney, in 1991. In the model, Barney deemed four key attributes – valuable, rare, imperfectly imitable and non-sustainable – to be paramount in defining a firm's resources. The model is presented in detail in chapter 3.1.

3.1 Resource-based view on talent management

The **resource-based view** (RBV) is a theoretical framework that explores an organization's strategic resources, which lead it to obtaining sustainable competitive advantage (Barney, 1991). The RBV is the most predominant and widely used model for analyzing talent management phenomena (Tetik, 2016). It presents a theoretical lens that tries to explain how some firms are able to sustain competitive advantage and, consequently, can continually earn superior profits in comparison to rival firms (Rumelt, 1984; Teece et al., 1997).

The RBV's idea is that firms should explore their own resources and capabilities, after which they should determine where these resources can be exploited (Prahalad & Hamel, 1990). The RBV, also sometimes called the resource-advantage theory, became a prominent tool in business strategic planning in the 1990s. Academic literature on RBV became notable around the same time, although the RBV was also discussed in the 2000s in relation to organizational strategic planning. The RBV can be seen as a "prescriptive approach" that can react to external changes, such as industrial turmoil. The argument of the resource-based view—that sustainable competitive advantage is the result of excellent capabilities and resources—was primarily ignited by Jay Barney's 1991 article, "Firm Resources and Sustained Competitive Advantage."

The RBV is considered interdisciplinary—it has emerged at the crossroads of the fields of economics, marketing, law, management, supply chain management, and ethics (Hunt, 2013). Barney (1991) underlines that, in order for resources to make a difference into the organization's sustainable competitive advantage, they should be valuable, rare, imperfectly imitable, and non-substitutable (the VRIN criteria). The RBV poses that businesses should develop unique key competencies that enable them to overcome their competitors by doing things in their individual way (Prahalad & Hamel, 1990).

The RBV provides a way to assess organizational attributes that are most likely to offer a competitive edge. It is important to note that the RBV relies on the idea that organizational resources are not of *equal* importance and that they are not all poised to become a part of the basis for sustainable competitive advantage (Fahy & Smithee, 1999). Oliver (1997) defines this as the result of combining institutional- and resource-based views. Lowson (2002) points out that the possibility to imitate or substitute resources is a key defining factor for whether the achieved competitive advantage is sustainable.

According to existing RBV studies, it is more beneficial to exploit external opportunities with the use of existing resources in a new way than to try to acquire new skills for each different opportunity (Barney, 1991). In identifying and analyzing these resources, Barney (1991), as well as Prahalad and Hamel (1990), suggest that organizations should follow the three steps of the RBV central model—the VRIN model—in order for them to gain sustainable competitive advantage. Another version of the VRIN model, often seen in talent management literature, is the Valuable-Rare-Imitability-Organized (VRIO) model, where the "non-substitutable" criterion has been replaced by the "organized" criterion—meaning that the business in question is organized as well as able to utilize the determined resource (Knott, 2015). The central steps of the VRIN model are:

1. **Identifying key resources.**
2. **Confirming that these key resources fulfill the following VRIN criteria:**
    - **Valuable** – enable a firm to implement strategies that improve its efficiency and effectiveness.
    - **Rare** – unavailable to other competitors.
    - **Imperfectly imitable** – hard to be implemented by others.
    - **Non-substitutable** – unable to be replaced by some other non-rare resource.
3. **Developing, nurturing, and protecting the resources that fill these requirements.**

However, Priem and Butler (2001) argue that the elemental resource-based view has not provided a theoretical structure. Furthermore, they claim that its proponents have worked under the assumption that product markets are stable and have shied away from determining the values of resources. Thus, Priem and Butler state that the RBV's vague definitions hinder its use as a perspective for strategic management (2001).

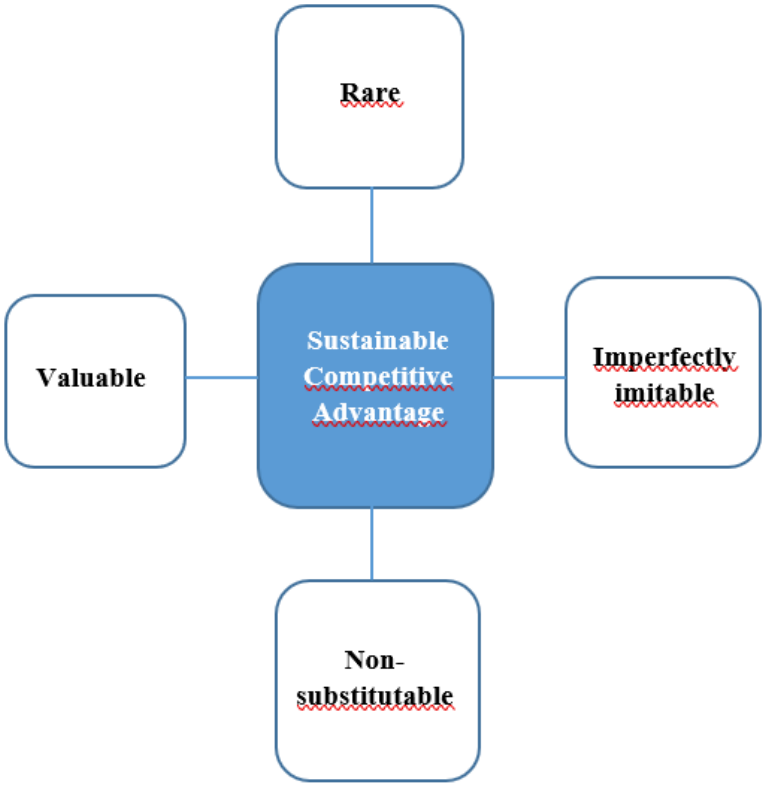

Figure 3. VRIN model (based on Barney, 1991; Prahalad & Hamel, 1990).

3.2 Organizational image through the RBV lens

Searching for key talent in an organizational setting, the resource-based view is focused on an organization's resources as the source of its competitive advantage. Beyond the RBV, the image and reputation of an organization has traditionally had strong links to its performance and success. Flanagan and O'Shaughnessy (2005) state that an organization's "reputation is perhaps one of its most important strategic resources." Reputation has been linked to organizational performance by several scholars in the field (Fombrun & Shanley, 1990). Rindova et al. (2005) create a model to depict this reputational link by proposing that constructing reputation has two dimensions (Boyd et al., 2010):

- perceived quality
- market prominence

Both these dimensions have individual performance attributes and implications. Rindova et al. (2005) state that reputation is based on economic orientation and driven by the quality of its inputs, ingredients, and productive assets. Boyd et al. (2010) suggest that the resource-based view could offer an alternative to the model by Rindova et al. (2005). In the RBV model, however, reputation is seen as an organizational construct that gains value from a multitude of internal and external links and interactions. Although Rindova et al. have not explicitly conceptualized and tested a resource-based explanation, Boyd et al. (2010) suggest that, based on analytic evidence (Crook et al., 2008), such an explanation could have merit. In the end, Boyd et al.'s (2010) testing of the theoretical premise supports the RBV logic more than the model by Rindova et al. (2005) does. In essence, this means that organizational reputation is more of an intangible asset, a correspondence of internal and external factors (Boyd et al., 2010).

3.3 Dynamic capabilities theory

As an extension of the RBV, the dynamic capabilities theory (DCT) was defined by Teece et al. (1997) as an additional and continuing theoretical lens for talent management. The DCT was used in investigating the ways and sources of creating monetary value by private companies that function in rapidly changing technological environments (Teece et al., 1997).

Teece et al. (1997, p. 516) highlight dynamic capabilities as a company's ability construct and reposition competencies in order to respond to a rapidly changing environment. Consequently, this view represents an organization's capability to attain new and innovative results from competitive advantage, taking market positions into account (Barton & Peters, 1992). The developers of the DCT also state how the RBV emphasizes "firm-specific abilities and assets, as well as isolating

mechanisms," as central determinants of business performance (Rumelt, 1984; Teece, 1984). In other words, the RBV *recognizes but does not attempt to explain* these isolating mechanisms, which enable competitive advantage to be sustained (Teece et al., 1997).

In supply chain management literature, Pereira et al. (2016) argue that organizations are entrenched in an uncertain environment, where each organization holds tangible and intangible resources. This means that managers are able to increase their competencies over time through examining what they have learned in daily routines and practices. In other words, they investigate path dependence in organizational processes. Thus, dynamic capabilities are derived from building value-creating strategies, leading to organizational resilience and competitive advantage.

Pereira et al. developed the *dynamic capabilities theory framework* (2016; Figure 4), which depicts the positions, processes, and paths of an uncertain environment. The positions call for intangible assets, such as skills, knowledge, and information, as well as tangible assets, such as humans and products. The model highlights the importance of forming best practices and defines competencies as the sum of learnings and experiences. These aspects are all found useful and relevant later on in this study, especially in the turbulent environment of the technology industry.

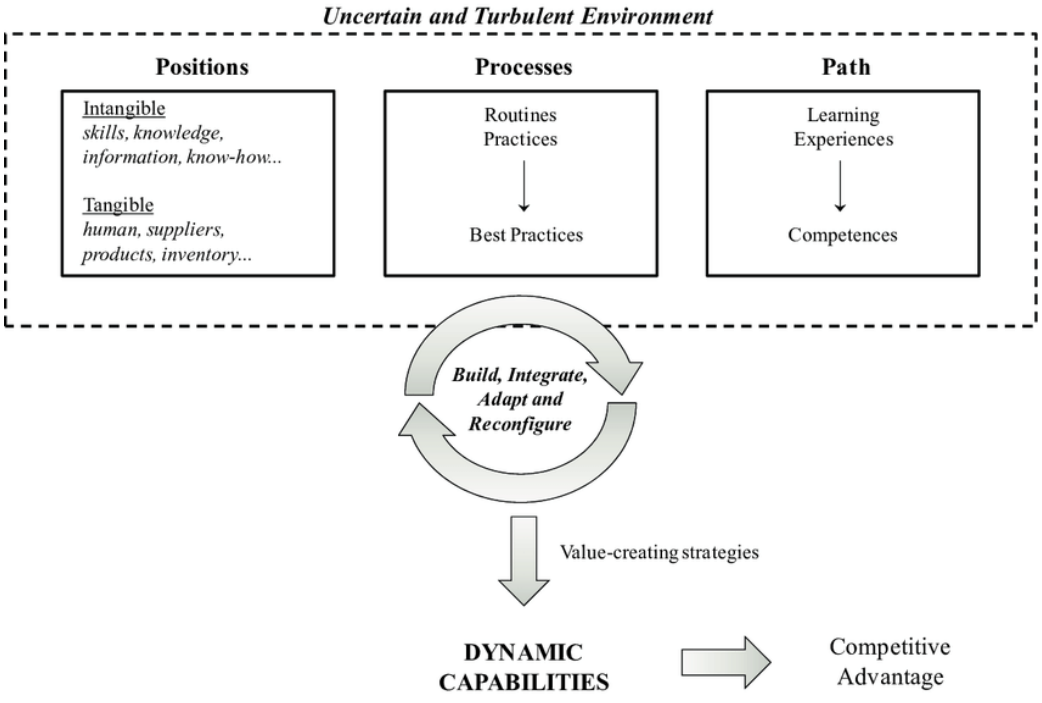

Figure 4. The dynamic capabilities theory framework (Pereira et al., 2016).

4 EMPIRICAL STUDY

4.1 Empirical context: The changing energy sector

The energy sector was chosen for this thesis for several additional reasons. First, few people management studies have been conducted in the energy industry. Second, technical areas and industries, including the energy sector, are traditionally perceived as quite "hard" and stoic fields, where the emotions and personal attributes of people are discussed more rarely than in other, more humanistic fields. This is, of course, entirely expected due to the nature of the field and its focus on technology and physical artifacts, such as machinery, while, in the healthcare field, for instance, human beings are the target of the entire industry.

During the fall of 2018, the energy sector, along with climate and sustainability fields in general, received notable worldwide attention due to the Intergovernmental Panel on Climate Change's report on the realities of challenges of global warming (IPCC, 2018). This discourse also introduced several humanistic elements into the discussion on how and why the ongoing energy transition is essential to mankind. The resulting media attention caused this study to become even further entrenched into the energy sector as a workplace. Now it is more interesting than ever to find out who are the people who work in the energy industry, and in what circumstances. The energy sector's visibility has grown significantly in the past few years, and this will undoubtedly raise increasing interest into the experiences of the people in it.

Previous studies, focusing on talent or people management in the energy sector specifically, are scarce, especially in the Finnish context. However, some examples of such studies do exist in the energy field at an international level. In 2014, David Spencer-Percival, who was the chief executive officer (CEO) of global energy field recruitment expert organization Spencer Ogden, published a short blog article, "Dire Skills Straits" on Utility Week. In his blog entry, he states how "There is an ongoing skills shortage in the UK energy sector, exacerbated by the emergence of new technologies" (Spencer-Percival, 2014).

Here, Spencer-Percival highlights the import of foreign employees for the U.K. energy sector, stating that it is also a positive one because of the increased wealth of knowledge that can be gained from experts from other countries. He states how it is effortless to recruit foreign employees due to the visa-free entry from inside the EU (Spencer-Percival, 2014). Interestingly, this is likely to change if the United Kingdom leave the European Union in late 2019 as a result of Brexit.

According to Energy & Utility Skills—the energy industry's membership organization, which aims to ensure that the industry is up to date in terms of the necessary skills—it is estimated that 80% of

the energy industry's workforce will be lost by 2024, mostly due to retirement. However, per this 2014 prognosis, the sector would need to hire at least 45,000 new employees by that time (Energy & Utility Skills, 2014).

In 2019, it is clear that the energy sector has transformed in leaps over the past few years and, currently, the Energy & Utility Skills' focus is on the sector becoming more diverse. In an open letter to Dermot Nolan, the CEO of Ofgem (The Great Britain's government regulator for gas and electricity markets), the current CEO of Energy & Utility Skills, Nick Ellins, endorses Ofgem's pledge to have 50% female staff in the company by 2025. In this open letter, Ellins further underlines the ways in which Energy & Utility Skills has actually been making strides in terms of diversity and inclusivity for a long time already. Ellins underscores the principles of working collaboratively as a sector to drive change, challenging oneself to do things differently, sharing best practices, and delivering sector priorities as being the key points determining the Inclusion Commitment of the Energy & Utility Skills Partnership (Energy & Utility Skills, 2019). Ellins also highlights the commitment signed by the organization's member companies:

1. Being inclusive enables our sector to attract and retain the diverse talent that is crucial to ensuring a resilient workforce.
2. Being inclusive will help us to be more innovative and achieve greater productivity by adapting to our changing environment.
3. Having a diverse workforce ensures we are reflective and inclusive of the customers and communities we serve.

In 2016, Hart published the article "Keeping Top Talent" in *Midstream Business*, where he describes how a key concern in the energy industry is the comparatively older overall age of the employees within it. According to a report by one major energy industry search and placement organization, Swift Worldwide Resources (2016, now called Airswift), titled "Talent Management in a Down Economy," data suggest that demand for skilled workers in the energy industry will dramatically increase going into the 2020s. What makes this more problematic is that, at the moment, the number of workers retiring is substantially larger than the number of people replacing them (Hart, 2016). When interviewed by *Midstream Business*, David Preng, the founder and principal of Preng & Associates, advised that the most important actions for retaining key talent in the energy sector are to (Hart, 2016):

- Provide them with enough challenges to stay stimulated

- Keep them up to date on what is happening in the organization and the sector
- Give them a sense of ownership by keeping them engaged in the firm
- Ensure they perceive themselves as a part of the team

The aspect of *organizational culture* is raised as a key ingredient in battling loss of talent. Noah Rabinowitz, senior partner and global head of Hay Group's Leadership Development Practice states (2016) that "culture is the x-factor – the invisible glue that holds an organization together and ultimately makes the difference between whether an organization is able to succeed in the market or not."

In their 2019 study, "Green Talent Management to Unlock Sustainability in the Oil and Gas Sector," Gardas et al. underline that uncertain career growth and lack of training programs are the most significant barriers for talent management in the Indian oil and gas sector. The study particularly emphasizes the role of an organization's human resources team, stating that it is HR's responsibility to offer ample working conditions for employees, to ensure long-term profitability for the industry (Gardas et al., 2019). The article also points out that it is the HR team's task to manage the talent' work–life balance in order to ensure that they remain productive while maintaining a hold of their physical, emotional, and psychological well-being.

4.2 Empirical materials

The empirical materials on which this study is based consist of the following: a pilot study interview, a questionnaire for energy companies, and 160 job advertisements. The data sets are presented in Table 1. These data choices were made due to the limitations in existing data, e.g., statistics from the energy sector. The collection and use of primary data supports providing the industry with new information.

Pilot study interview

First, a semi-structured pilot study interview was conducted with the Finnish Energy's senior advisor on human resources in order to explore the current overall state of the energy sector in Finland. This trade association represents companies that produce, acquire, transmit, and sell energy-related services (Finnish Energy, 2019). The interview helped obtain understanding of what energy firms are looking for from their employees and what is missing. The interview also clarified the shortcomings of employees in terms of knowledge and training needs.

The association represents approximately 260 companies in the sector and, as such, is in a unique position to provide answers for the entire industry. The purpose of the pilot study interview was to

explore and map out the current landscape of human resources, generally, in the broader context of the energy sector, providing a basis for later research. The questions posed to the association's representative were largely the same as those posed in the questionnaire sent to energy companies, with slight modifications to their form. This created an opportunity to form expectations about how companies may react to the questionnaire.

Questionnaire

Based on the interview and a review of literature, a Webropol-based questionnaire was sent to energy companies, providing results from 11 diverse firms in Finland. The questionnaire was originally sent to 155 Finnish energy businesses, concluding with a 7% response rate. The questionnaire was accessible for three weeks, from May 6, 2019 to May 25, 2019. A reminder message was sent to those recipients who had not responded to the questionnaire after the first week. The organizations that answered the questionnaire varied in terms of size and age. Two of the businesses were large companies, while the remaining nine were small- to mid-size companies. The questions were formulated in Finnish, with the aim of achieving the lowest possible threshold for the Finland-based businesses to respond.

The questionnaire entailed similar open-ended questions as in the pilot study interview. To ensure that the questionnaire felt as uncomplicated to approach as possible and that the businesses would feel interested and compelled to reply, Finnish language was used. In addition, there was no clear need for another language to be used, as the questionnaire's target audience was composed of businesses in Finland. Out of the 11 companies that responded, 9 were small- to mid-sized companies, with 249 employees or less, as well as an annual turnover of no more than 50 million euros. The remaining 2 companies were considered to be large businesses, with 250 employees or more, and an annual turnover of over 50 million euros.

Job advertisements

As the third dataset, a search on Finland's most used job engines, *Oikotie* and *Duunitori*, was conducted. The search term *energia* ("energy" in Finnish) initially returned 389 search results, of which 307 were from *Oikotie* and 82 from *Duunitori*. The word also returned jobs that had nothing to do with the energy field, such as cleaning services and mobile phone sales, which were removed from the result pool.

A total of 160 job advertisements most closely related to the energy sector were selected for further examination. These job advertisements were all active on August 27, 2019. These 160 job

advertisements also included postings by recruitment agencies. The purpose of collecting this data was to provide a current and comprehensive view of what today's energy businesses in Finland are looking for in their employees.

Table 1

Data and Analysis Summary

Method	**Amount of data**	**Date collected**	**Support for research problem**	**Analysis method**
Pilot study interview	1 trade association interview	February 2019	Overview of entire energy industry in Finland	Inductive
Questionnaire	11 firm responses	May 2019	Primary data from firms, direct responses from representatives	Inductive, abductive, iterative
Job advertisements	160 job advertisements	August 2019	Firms' expectations and offerings	Inductive, abductive

4.3 Methods of analysis and analytical procedures

Qualitative studies seek to explore phenomena and use instruments that have a more flexible and iterative style of eliciting and categorizing responses to questions. Auerbach and Silverstein (2003, p. 13) define qualitative research as "research that involves analyzing and interpreting texts and interviews in order to discover meaningful patterns descriptive of a particular phenomenon."

A qualitative study fits the theme of finding out new things about a field, such as the energy sector, that has not extensively been studied before. A key aspect in this study is to find out precisely how the energy sector should function as a result of the transition it is undergoing. The implications of this change in the sector also deal with the specific culture of the industry itself.

Moisander and Valtonen (2006) point out that research on culture often relies on the use of diverse materials, such as interviews, media texts, and documentary materials. These approaches assist in comprehending discursive practices in an everyday setting. This coming together of multiple empirical materials adds complexity and depth to the study (Denzin & Lincoln, 2003). Furthermore, multiple materials underline the nature of beliefs, values, and norms in a culture (Moisander & Valtonen, 2006). This connection between diverse empirical materials was looked for in this study.

Qualitative studies can be divided into several categories, including discourse analysis, ethnography, fieldwork, interviews, life histories, participant observation, and textual analysis (Auerbach & Silverstein, 2003). This study uses media and discourse analysis as its main qualitative method.

The forms of analysis varied between the sources of data. For the pilot study interview, an inductive approach was used in which the findings arise from the data itself. The inductive approach is generally the most suitable one for a qualitative analysis. The interview revealed aspects that could be mirrored in the questionnaire that followed.

The questionnaire responses were also analyzed using a partially inductive approach, through themes and commonalities that emerged from them. However, the theoretical lens of the resource-based view was also used to interpret the findings, making the analysis method abductive (Tuomi & Sarajärvi 2002). The analysis also had elements of being iterative, as the questions and responses were read and re-read, with new meanings coming to light as the analysis continued. This enabled a deeper and more diverse understanding to form about how respondents could have understood the questions. For instance, one piece of information was asked in various ways in three different questions. This technique diversified the findings and crystallized the key themes, which were then presented as dimensions of a key model within in the resource-based view framework.

The job advertisements were analyzed first in an inductive way, with the advertisements signaling the themes. As the resource-based view was introduced to this stage of the analysis, an abductive approach was also applied. Such as with the questionnaire responses, the findings of the job advertisements were also presented through the VRIN model of the resource-based view.

5 FINDINGS

5.1 Energy sector's image needs updating

The second research question highlighted how energy firms manage their operations in terms of new and existing talent in a changing innovation environment. The supporting pilot study interview revealed several challenges that people in the field currently face precisely in relation this question.

The pilot study interview was partially based on Finnish Energy's Labor Market Scenario 2025 (2016), which depicts the general future direction of employment in the sector. The conclusive findings of the report were that basic functions in the energy sector are likely to remain in place and that the prominence and importance of the energy sector will likely increase both nationally and

globally. More industries will operate together with the energy sector. Problems emerging now will be solved by then, blowing up older business models and challenging traditional companies. Success in the energy sector will likely require quick understanding of customer needs and service orientation.

Energy sector's new areas

For the opening question, the senior advisor was asked whether they think there are new areas developing inside the energy field. The most significant influencing factor was considered to be the digitalization of the industry. In practice, the widespread awareness of things like data hubs and smart grids coming to the scene has direct implications for certain Finnish Energy member organizations. In general, new ways of generating energy always have an effect on what type of expertise is needed and the ongoing development of the industry setting challenges the trade association as well.

Specifically, crucial hands-on work, such as assembly and installment, requires a new type of learning and training. Both existing and emerging energy technologies, such as solar and wind power, requires technical knowledge that cannot be directly transferred from other energy applications. Another vanishing work type involves jobs that contain only a specific and narrow description, such as installing only one type of electrical streetlight. Instead, the engineers who used to manage only streetlights, should now preferably be able to also handle a town's electrical grid and perform mobile phone network maintenance. This reinforces the idea that a professional today must possess a larger repertoire of skills in order to stay up to date in their position.

When thinking of large companies in particular, such as Helen (a Finnish energy company providing the city of Helsinki with energy services), this is especially the case. These companies offer a multitude of services and, thus, they naturally seek people who possess as much of the expertise needed in their field as possible. For instance, in Helen's case, an ideal employee would be able to handle both their "traditional" power plant activities as well as, for example, a solar plant's functions.

In particular, retraining employees is going to be a topical question when the city of Helsinki – along with the rest of Finland – gives up the use of coal in energy generation in the future. As a result, the traditional coal power plant operations will cease to exist. Since employees, for instance, need to know what to do in case of a problem, the needed practical expertise may vary substantially. It seems likely that companies should arrange new positions for disappearing jobs in the future as well as to retrain existing employees.

Retraining in energy companies

Finnish Energy's senior advisor stated there is a substantial amount of retraining already happening in energy businesses. In fact, there is likely more of it going on than can be statistically verified because it is done on a case-by-case basis and is usually tailored to the person undergoing it. The format of retraining is also affected by the person's history in terms of education, experience, and capabilities. Finnish Energy is planning to expand their data on this issue in the future and to research this phenomenon more closely with their member companies.

What has become clear in the energy sector is that basic vocational education is often not sufficient in this day and age. For instance, electrical engineering education at the basic level usually prepares a person for indoor electrical work, with high voltage requirements of the energy industry coming only in the higher professional education sphere. This automatically means that a company has to provide higher training for new recruits who have only basic training under their belts. This usually means that an organization has to arrange for an apprenticeship contract for these types of recruits. In general, apprenticeship contracts seem to be used quite often in the energy sector.

A central aspect of the current energy sector is that, particularly in higher-level engineering positions, employees should also know how to promote and sell their product, in addition to having technological knowledge of it. While the employees who do possess skills in sales and marketing exist, they are still few and far between in the industry. In terms of education, only some them have the opportunity or interest to pursue degrees that incorporate both technological as well as business studies. This is why it would be wise to develop engineering degrees that also incorporate business studies in the future. Fortunately, this is happening in certain universities already. However, when considering universities of applied science or lower education levels, the combination is still surprisingly rare. In many cases, it means that the student is forced to study a completely other degree in addition to their technological studies, or take open university courses that come with a fee.

Image of the energy industry

Many prospective employees still view the energy industry as being conservative rather than innovative. In many places the industry *is*, in fact, still quite conservative but, even if it was not, the image of it may be keeping some prospective, innovation-oriented employees at bay. The industry could benefit from people who could develop all types of new solutions and services and who could think about what to sell and how to make money for the company.

This situation also works in reverse, as people with business knowledge rarely tend to seek out the energy industry, thinking that their skills would not be needed there. Recently, a job posting for a software developer at an energy company received zero applications, although the business was well known and highly valued in its field. This is another sign that the energy industry is not seen as being open for diverse types of jobs.

When visiting universities of applied sciences, for example, to discuss the types of jobs that Finnish Energy's member companies offer, a common response is astonishment about the fact that such diverse posts exist in the sector. For instance, education managers and international specialists are often interacted with, to discuss the possibilities for various companies to hold positions for their institutions' prospective graduates.

What has become clear in the energy industry is that its future landscape is ruled by the customer. This is a fundamental change in thinking, as up until now the crux of the business has mainly been the *location* of energy use. This change poses a puzzle, because firms need to be able develop products and provide solutions that customers are actually interested in.

The need arises to consider that almost every person already has some type of customer relationship with some energy service provider—for instance, through their basic electrical bill. This customer relationship needs to be understood in a new and different way—but with a realization that the relationship is much more individual than it was before and that the changes in technologies, which are becoming more complicated, may offer new possibilities.

5.2 Searching for key talent

The resource-based view considers people to be a resource that provides a company with the business capabilities and core competencies it needs. What kind of employee resources do energy companies feel they need? In defining the idea of RBV, Barney (1991) states that substantial managerial effort should be invested in identifying, understanding, and classifying core competencies. Successful strategies and sources of advantage often have a complementing relationship and, to provide better understanding of this particular relationship, leadership needs to identify and understand these core competencies.

The needed competencies of the employees should be properly mapped out already before the search for talent begins. The leadership and, thus, the strategy of a company needs to have an idea of the attributes they seek in their employees. These attributes are what this paper seeks to find in this section.

The research problem posed in this study is "How do organizations acquire and manage talent in a rapidly changing technological environment?" The first research question, "What are the needs and challenges of the key talent that firms are looking for?" is handled using inductive and abductive approaches (Thomas & James, 2006), by grouping and analyzing the data. The use of these approaches is supported by the fact that a preliminary idea of what the job advertisements exists.

The first research question is further divided into two parts for analyzing the job advertisements:

- Matching the needs of the talent by **offering**.
- Challenging the abilities of the talent by **expecting**.

A search of job advertisements was conducted using the following two keywords: "offering" and "expecting." These words generally exist in job advertisements, to indicate the employer's two focal points—what the firm can provide for the employee, and what it asks from them in return. Altogether, 166 attributes were found in the advertisements—78 offering attributes and 88 expecting attributes. A comprehensive table of these attributes is visible in Appendix 1. Using pattern coding (Saldana, 2009) to inspect the key words, six themes emerge. Three of them are from the offerings and three from expectations. An important insight emerging from the RBV is that resources are of diverse levels of importance—not all have the ability to provide sustainable competitive advantage (Fahy & Smithee, 1999). Thus, not every employee is a resource of the same caliber, and not every attribute is of equal value.

The themes arising from the data are as follows:

1. Offerings:
   i. unique career path
   ii. team building
   iii. pay & benefits
2. Expectations:
   i. wide knowledge
   ii. adaptability
   iii. diverse skills

Offerings

RBV's conceptualization relies on the VRIN model (Barney, 1991). The model uses the idea of a firm's core competencies as its key factors for gaining sustainable competitive advantage. Core

competencies are determined by Prahalad and Hamel (1990) as an alternative for the existing strategic business unit (SBU) mindset. These scholars felt that SBU was outdated and worked in the times of General Motors vs. Ford. They state that, strangely enough, SBU managers compete for cash but not for people—"the company's most precious asset" (Prahalad & Hamel, 1990).

The core competence idea felt like a more suitable model for the time. Guiding this new statement, the basis for competition changes from competitiveness of products to competition between firms to build competencies (Prahalad & Hamel, 1990). The scholars recommend that corporate leaders should map out the number, location, and quality of the people who are competent.

Drawing from the VRIN model and the view of core competencies, the themes are assigned an attribute from the model in Tables 2 and 3.

Table 2

Job Advertisements' Offerings

Offerings		
non-substitutable (N) unique career path	**imperfectly imitable (I)** team building	**valuable (V)** pay & benefits
• personal career tailoring • career advancement possibilities • flexible working culture • wide networks • useful contacts • future building • interacting with multiple cultures • fulfill career dreams • appreciation • becoming a professional	• professional team support • wide networks • useful contacts • expert support • chance to develop a team • energetic atmosphere • help of colleagues • experienced colleagues • strong organization support • youthful and humorous team	• bonuses • competitive pay • full-time job • a company with means • sports and culture benefits • company car • modern equipment • chance to affect pay grade • long fixed-term contract • benefits of a large company

• flexible working hours • deepening knowledge • chance to present bold visions • traveling • meaningful work • developing project skills • gather work experience • being a personnel priority • important work • role expansion in the future • long-distance work • work–life balance	• fair work team	

Three VRIN competencies can be formed from the attributes:

1. Non-substitutable (N) – unique career path:

   It is not possible to completely copy another person's individual career. No employee can completely substitute another's career path. This theme comprises of individual and person-specific events, such as fulfilling career dreams unique to an employee, and gaining a suitable work–life balance.

2. Imperfectly imitable (I) – team building:

   While it is possible to create teams by taking examples from successful teams, as the context changes so do the needed attributes. Each aspect of a certain context matters and, thus, the only way to perfectly imitate a team is for all the team's attributes to be the same. These attributes include but are not limited to the team's members, workload, location, and company. This theme includes things such as having the help of colleagues and having an energetic atmosphere.

3. Valuable (V) – pay & benefits:

Pay and benefits are of value for an employee and, through the latter's engagement, for an employer. These benefits can include bonuses and things like health services. It is important to find the right combination of offered benefits and terms for each particular employee. The amount of pay does not equal the biggest satisfaction for an employee. As stated in the VRIN definition of valuable, resources are considered valuable when they help a firm apply strategies that improve its effectiveness (Barney, 1991).

Expectations

Table 3

Job Advertisements' Expectations

Expectations		
rare (R) broad knowledge	**imperfectly imitable (I)** adaptability	**valuable (V)** diverse skills
• diverse understanding of needed technologies • education of the field • work experience • knowledge of the field • ability to use IT programs • engineering background • digital knowledge • functionality understanding • technology knowledge • Excel skills • understanding strategic goals • IT knowledge • reporting experience	• collaboration skills • good communication skills • work in shifts • following regulations • flexibility • adjusting to surprising circumstances • willingness to travel • team player • willingness to do mobile work • working efficiently under pressure • use of own car • adaptability to changing work rhythms	• problem solving skills • planning ahead • taking initiative • collaboration skills • good communication skills • people skills • management skills • ability to finish projects • project management skills • network creation skills • deduction skills • efficiency • Excel skills

• geographic information knowledge • knowledge of industry standards • design program knowledge • experience in design tasks • industry-specific code knowledge • mathematic knowledge • local area knowledge • industry boundary - crossing knowledge	• ability to work also in other positions • ability to learn new things • agility in learning new systems • fearless attitude	

Between the offerings and expectations, the latter are more interesting for the purpose of this study because they represent the kinds of attributes that talent are expected to have. What needs to be explored is how companies have formulated these expectations, which are sometimes mere hopes, in the job advertisements. Looking at the themes, three groups of VRIN competencies can be identified from the attributes:

1. Rare (R) – broad knowledge:

   Knowledge is usually gathered over time from work experience and education. Knowledge can be seen as a hard skill that is learned as opposed to something inherent or in a person's individual nature. The more diverse knowledge that prospective employees have, the rarer they become. Having a wide knowledge set is not rare per se but a precise combination of what an employee has and what is needed for a particular job is rare. One person is unable to completely replace the entire knowledge of another. The job advertisements looked for a wide variety of skills, including technological, managerial, industry-specific, and methodological.

2. Imperfectly imitable (I) – adaptability:

Some consider the ability to adapt to a changing context to be inherent in nature. Others feel it is a skill that can be learned. While it is possible to learn new things and take on a new position, adaptability to culture ties into the context. Future challenges to organizations require adaptability and flexibility from its employees (Snow & Snell, 1992).

The attributes concerning adaptability in the job advertisements comprised working under pressure, working in two or more shifts, working under safety regulations, and being willing to travel for work. One adaptability attribute was working in a completely different position than the one the advertisement was for.

3. Valuable (V) – diverse skills:

   Skills can be determined as something that can be learned and developed. Skills in the job advertisements included people skills, management skills, communication skills, problem-solving skills, and the ability to finish projects.

Abstracting the literature on RBV, it is evident from the data obtained that only some human capital resources are considered important. Human capital resources are defined in RBV by Barney (1991, p. 101) as the experience, intelligence, judgment, relationships and training of individual workers—whether they are managers or employees. Furthermore, in order to be advantageous for a firm, its internal resources need to be able to be used in a way that relates to external resources. Meaning, competitive advantage is derived from a firm's ability to implement strategies that use internal strengths to battle external threats and respond to outside possibilities (Barney, 1991).

As stated earlier in the data, companies that look for new talent seek certain qualities that are linked to one another and can form coherent themes. What seem to be the most important human capital attributes for companies in the job advertisements analyzed are the amount of knowledge (R) and the number of skills (V) that their future employees should have. Now, this is not surprising, as most industries look for and value a diverse and multilayered skillset in their workers. This is a good sign, in terms of the energy field, due to the changing environment it exists in.

What is interesting to note in the analysis is the demand for adaptability (I) and flexibility in the sector. While, in modern times, it is completely natural and frequent to see the possibility of employees doing diverse things and ending up in places they did not even imagine going, it was a little bit surprising in this case. The energy sector is, in fact, a quite traditional place. Traveling abroad, for instance, is nothing out of the ordinary but it does feel like the inclination in the industry is to focus on what is happening inside a person's own walls. This reflects the general atmosphere

of the industry—traditional, small with respect to people, self-focused. Beyond a big energy conference, what possible reason could there be to travel?

Of course, adaptability (I) means many other things and not just physical location and traveling. It can mean agility in new technologies—which is usually not a problem in this field. What could be trickier are the people and communication skills. Traditionally, engineering professions have not needed a great deal of skills in interacting with people. As the senior advisor of Finnish Energy underlined, today, the skills needed entail interacting with others much more than in the past. This inserts an additional layer into the required needs in order to become more diverse in talent.

As data shows, the theme of broad knowledge (R) is the one most requested in the job advertisements. Finnish Energy stated how someone who could do maintenance on electrical poles as their main job in the past now has to do complicated numerical analysis on their laptops, while the physical work is only a fraction of their job description. In addition, the same person may need to know how to repair a windmill sail or to calibrate a ground heat power plant meter for a local energy community. This brings us back to the third theme of possessing valuable diverse skills (V). Skills can be learned over time—but are energy firms able to teach their employees them?

5.3 Managing talent in a changing environment

The research problem that this study seeks to address—"How do organizations acquire and manage talent in a rapidly changing technological environment?"—was divided into two research questions. In this section, the second research question—"How do companies manage their operations in terms of new and existing talent in a changing innovation environment?"—is explored.

Data gathered through a Webropol-based questionnaire distributed to energy companies in Finland are used to highlight the second research question. The questionnaire was conducted in May 2019, using similar questions as those from the interview with the Finnish Energy senior advisor but with slight modifications. The questions were formed as open-ended, to give room for the answers to be as broad as possible. To ensure that the questionnaire felt uncomplicated to approach and that energy business employees would feel interested in answering them, the questionnaire was composed in Finnish. In addition, Finland was the only country in which the questions were conducted in.

The questionnaire contained 10 open-ended questions, ranging from changes in expertise to the situation of disappearing job descriptions. The questionnaire was constructed mostly in an "onion" shape, with questions first starting from the industry level, to then going to more specific questions concerning the business' employees. This way, the questionnaire could be peeled open, layer by

layer, with each question prefacing another. The first question inquired about possible new expertise areas needed in the respondents' company, while the last one asked about the existing employees' needs for retraining within it.

The studies precluding and leading up to the resource-based view method state that firms can only achieve substantial returns if they have top resources that are protected (Kipley et al., 2012). This does not mean that they cannot be shown to the outside world but that they need to be formed in a way that is unique for a company. With this in mind, the questionnaire delved into the underlying assumptions of talent in a firm.

It is important to note, that questions about competition in the market were not explicitly asked. There could be an underlying assumption that a feeling of threat from competing firms could have an effect on the responses. The possibility of competitors in the same industry poaching existing employees, or luring prospective ones, could be an undertone in some of the responses. Furthermore, image and the appearance that each business has their strategy well thought out is of course an impression that firms will want to leave.

In asking what kinds of talent are missing, one identified possibility was that the competition acquired them first. Another assumption was that they are not interested, according to the interview with Finnish Energy. Some energy companies do not know how to market themselves and to clearly communicate the offers and benefits that working for them may have. This is especially true when talking about people from outside the field. A mid-size energy company posted a job advertisement for a program developer that received zero applications. The general assumption would be that energy and IT industries are seen as quite close to each other by the outside world—but, perhaps, it may not be so.

If the central stance of the RBV says that all "capabilities"—among other things—that improve its business actions are important, should they not be protected? When asked about the possibilities to retrain, the answers were somewhat mixed. Retraining was actually asked about not in two but three different questions in different ways. The first such question asked how likely it would be to train people from "disappearing jobs"—and per the responses, these people exist—to new assignments and does such a thing happen. Four answers began with the word "not" and continued with words like "possible," "interesting," and "needed."

When asked the same question again but in a different way—with the idea to ask whether they would likely hire new people or keep the talent they have and can they, *for example*, be retrained—the answers were slightly different. No one said that they would not hire someone new but only two

respondents explicitly stated that they would hire from the outside—and even they had a reason for such a decision: both companies claimed either to be new (meaning they have to hire from the outside) or to not have internal staff to begin with.

To make things even more interesting, it was then directly asked whether the companies felt that more retraining should occur in their company. Three responses flat out said "no." The responses to this question were different from as in the first question where basically the same thing was asked. Thus, the exact view of the companies on retraining and positioning employees in new jobs is left unclear. Retraining is one of the most compelling areas of interest within this data. It seems that there is something underlying the idea of placing familiar people in new positions. Is it an exclusive issue within the energy community? Hardly, but human capital is seen as valuable in many industries, regardless of the job descriptions.

The RBV divides a firm's resources into two categories—tangible and intangible. While both are deemed especially valuable in RBV (Kenton, 2019), the intangibles are what tickle the most in this data. The RBV determines them to be embedded in organizational routines or practices. These include but are certainly not limited to culture, knowledge, relationships, and accumulated experience. These are exactly the employee-specific, unique attributes that should be cherished and cannot be completely replaced. While the energy field seems to have a grasp on what kinds of areas are emerging and what kinds of technological novelties they are looking for, it still does not seem to have a full idea of how to attract people from outside fields. Also, the appeal of new expertise areas inside the energy industry seems in need of development. While retraining is already done in several of the firms, it should be perhaps better prepared for in some of the companies.

The primary question related to this data was "How do firms manage their new and existing talent in a changing innovation environment?" The good thing is that the firms questioned truly seem to know that they exist in a transitioning environment. While their environment may be clear—what about the response to external opportunities that was underlined in the resource-based view framework? As one of the central themes of RBV states, a firm's internal resources can only provide advantage when they are used in relation to the firm's external attributes.

VRIN dimensions

Representing a qualitative study, the questionnaire to energy businesses entailed 10 semi-structured open-ended questions. As there are no numerical results in a qualitative study, a compilation of the responses is an approximation of the underlying ideas that a business may have. However, it was

possible to pinpoint certain tendencies based on the answers regarding the need for new versus existing talent, and the existence of new expertise areas versus traditional expertise areas.

A four-dimensional illustration was made based on the questionnaire responses. First, four tendencies of the responding companies were formed. Second, in between these tendencies, four dimensions were created using the VRIN model's four values.

The assessments were done for each organization (Figure 5), with a black dot representing each of the 11 companies. Two of the businesses that were considered to be large companies are depicted with a larger dot. This provides an interesting view of how large organizations relate to the small- to mid-sized ones. The four tendencies depicted are:

- *Traditional expertise areas*
  Starting from the left is the traditional expertise areas dimension. This is based on the organizations' responses about how much they believe they possess necessary expertise areas and about which job descriptions have remained in their company for a longer time and which could be considered "traditional." In the energy industry, this can mean, for instance, assembly line workers or electrical pole technicians.
- *New expertise areas*
  The dimension opposite that of traditional expertise areas is the new expertise areas dimension. It showcases the questionnaire responses that allude to the existence of new expertise areas in the company either at that moment or in the future.
- *New talent*
  The new talent dimension is depicted at the top, signaling the need for new talent in the company either currently or in the future. This can occur when a new expertise area is entered but also when an existing expertise area is being reinvented.
- *Existing talent*
  As the counterbalance of new talent, the existing talent dimension is presented at the bottom of the chart. This dimension signals the existence of and need for existing talent in the company. It may mean that a company wishes to, first and foremost, retain their existing talent before examining the need to hire new talent from outside the company. Organizations in this dimension are usually ready to take concrete steps to retain their talent. These steps may include retraining, job rotation, new types of projects, and team formations.
  Conversely, in some of the responses, companies stated that, although they strived to retain their existing talent over hiring new talent, retraining was, for example, difficult to arrange.

In this case, the possibility exists that this talent either have to have prior knowledge of their new area of employment or have to retrain themselves in order to successfully migrate into a new position within the company.

The four dimensions cross-cutting through these tendencies are:

Valuable	Traditional expertise areas and existing talent.
Rare	New expertise areas and existing talent.
Imperfectly imitable	Traditional expertise areas and new talent.
Non-substitutable	New expertise areas and new talent.

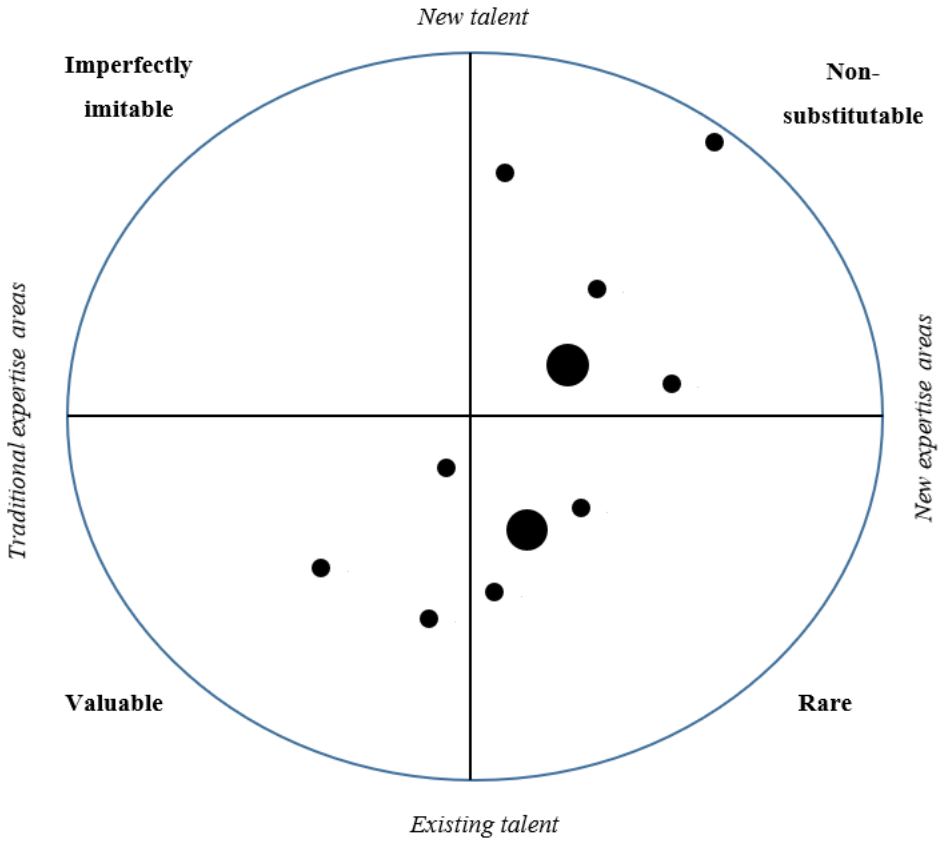

Figure 5. Energy business questionnaire responses presented in four VRIN dimensions (2019).

5.4 Talent Management 5D Model

In this section of the analysis, a model based on the data analysis is formed. It is suggested that people in an organization should first be considered in a two-fold manner:

1. Existing talent:
    - level of expertise,

- possibilities of lateral knowledge, and
- value of retraining.

2. New talent:
    - which areas need new people,
    - how to entice them, and
    - pioneers of other fields.

These two areas are then separated, with both bringing value to a company in their individual ways. A company's human resources, as well as strategic management, are influenced by the unique traits that that organization's existing talent—namely, current employees—and new talent—namely, outside recruits—possess.

This study's aim is to show how both existing and new talent, combined, are actually an organization's key resources. With this in mind, this resource is then looked at through the lens of the resource-based view, assigning the crucial traits of the view to the people in a business. The key traits of the resource-based view were presented earlier in this study. Applying these traits in assessing the talent of a business, the RBV would then transform into a new type of view, the people-as-resources -based view (PRBV), which is presented later in this study. This view is then looked at as a means through which sustainable competitive advantage can be gained, which, in turn, is then used to attract new talent as well as to maintain existing talent.

These steps are depicted in a causal circle, which I present as the **Talent Management 5D Model**. The goal of this model is to help organizations attain more knowledge and understanding of their talent management process and gain new insight into how this talent contributes to the success of their companies. The model is partially inspired by one of the leading forces behind the term talent management, the McKinsey consultancy agency's next-generation operating model for the digital world (Bollard et al., 2017).

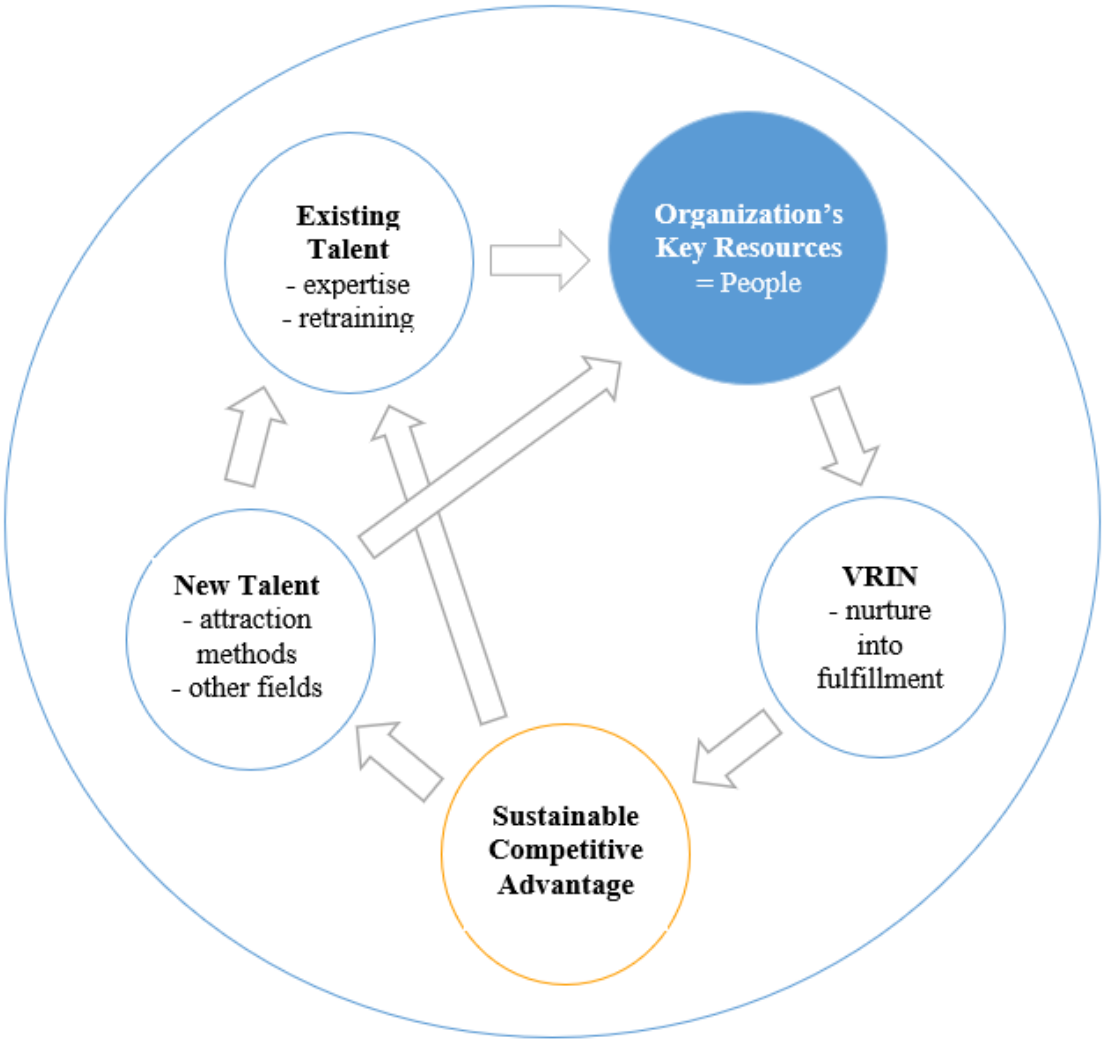

Figure 6. The Talent Management 5D Model (2019).

The model consists of five steps, which are presented here, clockwise, starting from the left side of the circle.

Step 1. New Talent

- Attraction methods.
- Other fields.

What areas should have new, external people? How to attract new talent? What kinds of platforms are used in today's competitive world, e.g., social media, recruitment agents? How to best use an organization's sustainable competitive advantage and retain prospective employees by promoting this achieved advantage for employees to attain and retain them? Seeking pioneers from other fields to bring innovational skills to an organization, in a best practice -type of situation.

Step 2. Existing Talent

- Expertise.
- Retraining.

Investigating and defining the internal expertise of current employees. Communicating and interacting with existing employees to gauge their aspirations and future plans. Mapping out the possibilities for retraining within the company. Utilizing existing knowledge to renew and enhance other departments.

Step 3. Organization's Key Resources = People

The value of a business must be placed on its employees. This is accomplished through actively engaging employees and by finding out what they strive for in their work. The people's ultimate goals and personalities play a part in the success of an organization. Keeping up the level of interaction and communication. Valuing employees through engagement.

Step 4. VRIN

- Nurture into fulfillment.

Placing the people in an organization into the VRIN (*valuable – rare – imperfectly imitable – not* substitutable) criteria table:

1. Valuable – *the people* of an organization enable it to apply strategies that improve its effectiveness.
2. Rare – *the people* are unique to an organization and feel they are where they aspire to be.
3. Imperfectly imitable – *the people* cannot be copied in or into another organization.
4. Non-substitutable – *the people* in an organization are unique individuals and cannot be replaced by other people or another resource, such as technology or automation.

These key resources of an organization—its people—need to be developed, nurtured, and protected in order to be retained and should be encouraged to strive mentally onwards in an organization.

This step, applying the Talent Management 5D Model into the context of the resource-based view, forms the view of **people-as-resources**. As people are defined as being resources in the RBV, the following view emerges:

- *People-as-Resources-Based View (PRBV)*,

where an organization's people are seen through the eyes of the resource-based view. In the RBV's core thinking, a resource can mean several different aspects, including funds, products, real estate, networks, investments, and personnel. In the PRBV, resources are seen exclusively from the point of view of the personnel. This does not mean that other organizational resources are invaluable or secondary, but that people are the *focus* in an organization's resources.

Step 5. Sustainable Competitive Advantage

If steps 1–4 are successfully fulfilled in an organization, then step 5 should be their natural result—an organization achieves *sustainable competitive advantage* through its people. This means that an organization values its people by ensuring that their needs and aspirations match its talent management process.

People as resources

The importance of people in an organization is clearly underlying in all the responses. While the question is not specifically asked, the responses that deal with recruiting new talent and retraining existing talent rely on notion of the importance of people. In question 2, when asked what types of actions would developing a new expertise area demand, almost every company answered by listing its specific units. However, one company's response interestingly stated, "leading people and getting young talent excited."

In question 4, the organizations were asked about how they feel that their company ensures the know-how of their personnel. Each of the responding companies gave a concrete answer to this question, with comments ranging from "learning by doing," to annual training programs and financial investments as well as training and knowledge leadership.

Most companies are entering new expertise areas

In question 7, the respondents were asked whether new expertise areas are forming in their companies. The majority thinks that new areas are either forming or will form in the future, while 3 of the 11 companies stated that new areas are not forming. Although venturing into new areas and possibly growing as a business is not equal to necessarily having or gaining sustainable competitive advantage, it can be considered to be a sign of an organization wanting to develop itself and remain modern and current within the transitioning energy field. In terms of sustainable competitive advantage, each of the companies is inclined to think that it is in a good place competitively. In this analysis, venturing into new areas can be seen as an enhanced form of competitive advantage, opening the door possibly even wider toward developing new and existing talent.

6 DISCUSSION

Talent management and the view on human capital as an organization's most important resources (Morris et al., 2016) all belong to a bigger picture. Future work will look very different than it did even five years ago. The main question is, how will the work evolve? In today's discussion, several differing opinions exist on how work is changing. Harari (2016), in his book *Homo Deus: A Brief History of Tomorrow*, describes how artificial intelligence will enable "the rise of the useless class". The way work is changing naturally also has effects on how talent is perceived in organizations.

In this study, the aim was to map out and discover what the employees of the energy industry in Finland are comprised of today. As talent, they are key in transforming the industry into new areas of expertise that are inevitably approaching (International Atomic Energy Agency, 2009). The employees in today's energy sector should be led as top talent, with encouragement to commit to their organizations (Barney, 1991) and most importantly, with excitement to new and emerging areas. The industry is making advances towards retraining employees, and finding new ways of attracting talent (Finnish Energy, 2019), but the change in the industry needs to be met with even more innovative and diverse approaches. The image of the industry could benefit from being elevated in terms of attracting talent (Flanagan and O'Shaughnessy, 2005; Rindova et al., 2005) also from other industries. If even information technology professionals aren't seeing the energy sector as attractive or important, that is a problem.

The knowledge that the industry has to renew itself in terms of its people management policies is there, it is simply the means that need to still be polished. New solutions into attracting, maintaining and repositioning talent are needed in the energy sector. In this endeavor, energy businesses should turn even stronger to instances such as trade associations, communication and recruitment specialists, and educational institutions. Energy businesses should take more advantage of the diverse sources of collaboration the Finnish society has made possible. Close-knit collaboration with universities, communication agencies and headhunters may very well be the key to energy businesses gaining strong sustainable competitive advantage.

In talent management, it could be suggested that some leaders could *scale* the overall level of talent that their organization has. By creating new kinds of groups and alliances, with possibly new ways of working, it could be considered that one employee's talent could be passed on to others, and that those with possibly less talent for a task could actually acquire the talent from others and benefit. In this way, the ideal of each member in a group bringing something of their own to the table could be realized and the overall result would represent a diverse sum of each of the talent in the group.

Talent management is a multi-layered view (Michaels et al., 2001). It has become clear that the enticements offered to both new and existing talent need to be considered carefully, preferably already before the need for talent exists. Traditional attractions, such as a hefty paycheck and a stable, long-term contract are not necessarily the most appealing offers an employee could receive. Work–life balance, autonomy, tailoring a career path, and the possibility to commute and do long-distance work are increasingly emerging on employees' wish lists for ingredients of the perfect working relationship. In recruiting new talent and positioning existing talent in new areas, it is important to discuss the aims and goals of both an employer as well as an employee. When the industry around an organization is changing, it is important to follow this change (Teece et al., 1997), because it will also have an impact on the people working within the industry.

Employee or contractor?

In addition to investigating what energy businesses could offer their talent and how they should elevate their image, how the sector approaches its talent should also be considered. For instance, what if the situation was somewhat reversed and the employer was the one open to incoming job applications as a norm? The practice of seeking out a new employee when a vacancy opens in a company could be challenged by more proactive talent—the ones who aim to make the decision about where to work.

A career-minded person may wish to change jobs, gather diverse experiences, and advance into more senior positions more rapidly than would have been possible 10 years ago. These types of people may not want to wait for appropriate vacancies to open up but may wish to promote their unique talent to companies in a "freelance" manner. Some of this talent may not want to be strictly tied down to one organization but to spread the wealth of their expertise to several entities.

The example of talent scouting for football players (Radicchi & Mozzachiodi, 2016) presented earlier in the study is an example of how, in the age of social media, talent can already represent themselves. Following this train of thought, talent are the one who do the "scouting." The US-based consulting agency, Catalant, has established an online platform on which employers can hire top talent for a specific project (Catalant, 2019). Here, the idea is not to find an employee for one's business but to actually hire someone as an "outside contractor" for a short-term, specifically defined task.

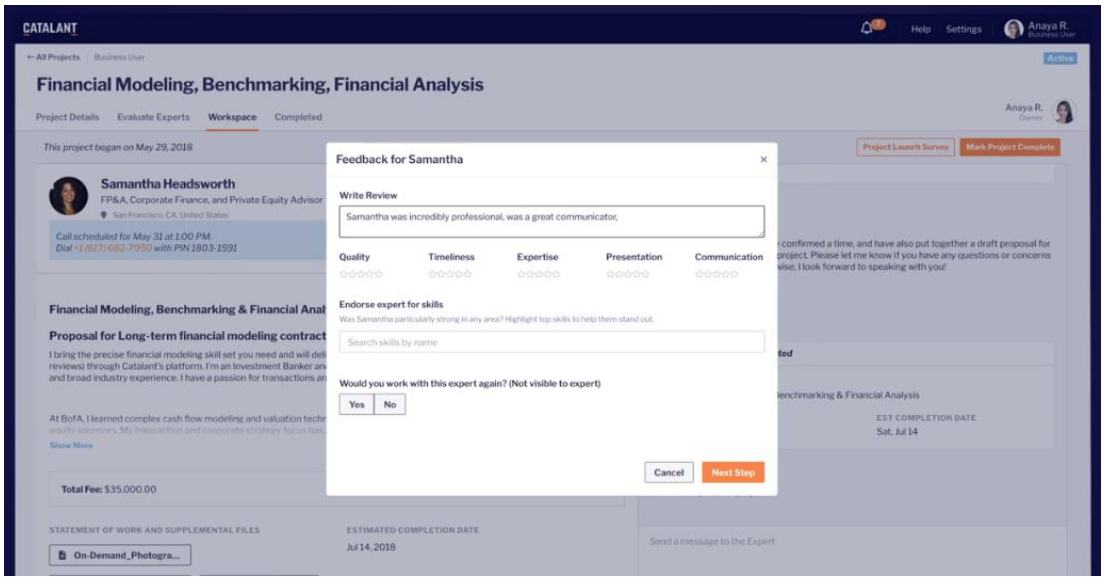

Figure 7. Catalant Expert Marketplace Platform (Catalant, 2019).

The structure of the Catalant platform seems to be a form of social media, a platform for top experts in a certain field. The website's introduction video to the platform makes it seem quite straightforward to use. The employing organization can begin a project on the platform and the potential contractors can build their own personal profiles in which they can list their expertise in a certain field (Catalant, 2019).

In what is called the "Expert Marketplace," the talent can see the posted business projects and express their interest in them. The platform then scans and identifies these interested individuals and formulates a shortlist of potential candidates for the project (Catalant, 2019). The pitches that the company then chooses out of these suggestions are subjected to interviews, after which the candidates make a formal proposal. The employing organization will, finally, either accept or reject the proposal, at which time they will either go forward with the talent in question or move on to find another suitable candidate. After the project is completed, the company is also able to provide feedback on how its success.

Another interesting and similar service can be found in the world of legal counseling—the U.S.-based UpCounsel, founded in 2012. Their modern image-envisioned slogan is seen on the front page: "The modern way to get legal work done." The business runs a network, i.e. talent pool (Collings & Mellahi, 2009), of over 5,000 experienced lawyers and the starting point is with a potential customer (UpCounsel, 2019).

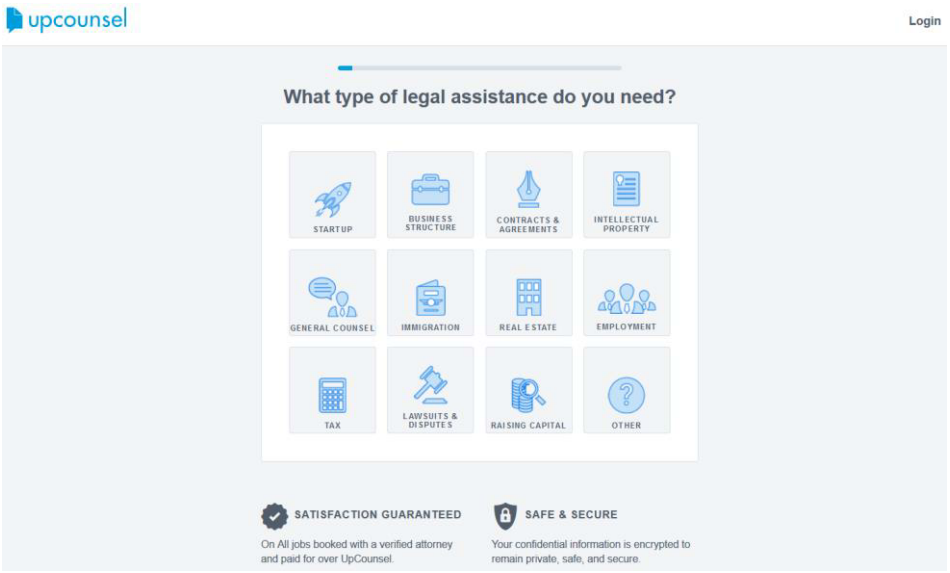

Figure 8. UpCounsel's legal service (UpCounsel, 2019).

In need of legal counseling, a customer can post a job online, using UpCounsel's system for the firm's lawyers to see the cases. Responding to them, several lawyers may make a "bid" on the case for the customer. These initial bids and comments are free and, thus, legal experts can give insight about what type of case the customer would be looking at. The customer may then accept their preferred bid and proceed with the chosen lawyer (UpCounsel, 2019). Afterward, as with Catalant, there is an opportunity to evaluate the services of the lawyer in question.

Talent in the new media era

Recruitment can mean a variety of things in today's business world. What used to be standard practice in talent acquisition has become just a "traditional option" among different ways of attracting talent. One of the most challenging aspects recruitment used to be the physical location where employers meet their employees—now the challenge has been largely diminished as a physical location is not necessarily needed, when things are done more and more in online platforms.

It does not really matter anymore where a person is based or located. It is not uncommon that someone is living in one part of a country while the office that they report to is in another. A person can also have a desk or an office in two or more places at once, through the ever-increasing amount of matrix organizations, various types of projects, and consulting work. In addition to one's primary contract, one can have several assignments with various companies.

One aspect of the virtual location of the work force is that a significant amount of the work is done online in a virtual company or office. This, of course, means that people from all over the world can

form one organization without being limited by the boundaries of traditional locations. This phenomenon has been elevated through several types of online platforms and, while large corporations each have their own preferred platforms, a relevant push toward this has also been made by the rise of social media. In the beginning, social media platforms were most often construed as, primarily, personal networking platforms. Over the years, businesses have seen the benefits of influencing people to become engaged with their product through social media interactions. Today, the trend—or, perhaps, it should already be called the standard—is to try to enhance a business' social media performance through its people's personal networks?

For instance, the biggest social media network in the world currently, Facebook, is primarily based on personal networking and use that is outside one's workplace. However, if a business is strongly represented on Facebook, what could keep them from using these personal networks to further their business communication and representation? In fact, it seems almost unavoidable. Conversely, traditionally business-oriented platforms, such as LinkedIn, are now being used to e.g. find suitable romantic partners, through the advantage of seeing a person's career and aspirations conveniently.

The resource-based view is based on looking inside the company and using its own resources as the source of its competitive advantage. This inside-out view makes it a very appropriate framework for talent management studies. However, the question may arise, that is it enough or even recommendable to keep looking in more so than out? RBV obviously hinges the organizations internal resources' value on having external resources to relate and possibly mirror them to. It is not wrong for a business to become "outside-in" looking, either. In fact, many businesses, especially when venturing into a new area, have to do that in any case. A study on outside resources' importance over internal resources could be an interesting one. To add another layer to this discussion, new talent is, in fact, external until they are inside the company. In the case, that they remain external and do not for some reason transfer into becoming internal, do they become threats? Is the work and effort that has been put into them gone to waste, or even worse: to the competitor? In a way, seeking new talent *is* an outside-in approach, where the company takes a risk. The crux of the phenomenon is finding out the best ways to ensure that the risk will pay off.

Many parallels can be found between the rise of business influence through social media and the traditional phenomenon of word of mouth. Throughout history, people have seemed to gotten to know each other the easiest way through their existing networks and contacts. This was then furthered when people realized that they could obtain a new job or a new employee using this method as well. It seems almost as plain as day—it would, of course, be nicer to have someone we know working for us if the possibilities are all standing in the same line. Unless there is a really big

name, a “get,” if you will, who is above all others and is thought of as the golden standard of a particular area that is being sought, most likely a person one would know would get the position.

We might dare to say that even if we had to make a choice between someone who would have grade A credentials, a sterling record, and 20 years of experience in the subject at hand—but whom we do not personally know—and someone who might be average and serviceable but is someone that we know as a person and know them to be fitting to the culture of our organization—we would still think long and hard about which person to take.

Regardless of what option would ultimately win, one thing is certain. When hiring someone that an organization does not previously know, there is always a long road ahead in terms of getting to know them. No matter how good they seem to be in their work, making a personal connection takes time and there can be many obstacles along the way. That is not to say that one should always only hire people one knows. Everyone has to start somewhere, and everyone will always have at least that one first place of employment in which they did not know anyone beforehand.

In 2017, Kyle Reyes, the CEO of Silent Partner Marketing, announced the development of the “snowflake test” for possible job applicants for his company. The Christian conservative millennial Reyes wanted to weed out what he considered to possibly be unsuitable candidates for his Connecticut-based business, which mainly provides marketing for boutiques. In the test, questions such as “How many sick days should be given to employees” or “What are your feelings about employees or clients carrying guns?” are asked (Reyes, 2017). It is left up to our imagination to think how the CEO analyzes the results and what kind of prospective hires go to the top of the list.

Reyes is clearly seeking to avoid taking what he feels are risks in terms of recruiting people. There is a something to be said about taking a risk, however, whether it be from an employer’s or an employee’s side. Sometimes, it does an organization good to jump a little bit into the “unknown.” In particular, if a company has been quite steady for a longer period of time, there is a chance that it may end up becoming “stale” at some point. The business may not even notice that it has fallen off the times, regardless of their profit-making and being financially secure. If, for instance, their hiring practices are still the same as they were in the 1990s, this could become a problem.

The thing is, changes usually happen in a slow and somewhat understated manner. It is a rare occasion in which an applicant for a position tells the recruiter that their hiring practices are actually quite out of date. They might say that their friends have just landed new jobs through presenting themselves on their own social media channel.

Companies are unlikely to have anyone tell them how they have fallen out of modern times nor how they should renew themselves. This is why it is of the utmost importance for businesses to keeps tabs on their recruitment and talent acquisition processes and to follow what others around them are doing.

7 CONCLUSIONS

7.1 Summary of findings

This study explored talent management in the Finnish energy sector using a qualitative approach. The research problem of this study was to explore how organizations acquire and manage talent in a rapidly changing technological environment. The research questions within this main theme were posed as two entities. First, the needs and expectations of firms were investigated through a selection of job advertisements. Second, a questionnaire was given to a diverse group of energy businesses in Finland. It was supported by a semi-structured pilot study interview with a representative from the energy sector's trade association.

The job advertisements were analyzed through the resource-based view, using its main component, the VRIN model (Barney, 1991). The analysis of the obtained questionnaire responses was then carried out by compiling them into a four-dimensional image. The attributes of the VRIN model were used to depict the way energy businesses were positioned in talent and expertise areas. Then, the survey responses were placed on a five-step talent management model, which emerged as a people-as-resources view. In conclusion, the study's practical implications and limitations are explored.

7.2 Practical implications

The most significant implication of this study was to illuminate where talent management in the Finnish energy industry stands in today's landscape. Gaining knowledge that is current and seeking the tone of what the future needs of the industry are is something that the energy sector could greatly benefit from. This study aimed to activate a realization about what is occurring in the workforce of the industry and to raise discussion about how this affects organizations within the energy sector.

The second implication of this thesis was to activate thoughts about whether the reader's own organization is in need of new practices in terms of how it views its people. Energy businesses may find that there is a need to look into their talent pool, and assess whether they need to rejuvenate

their people management practices. In the case that their new or existing talent seek employment elsewhere, they should ask whether there is something that could be done.

7.3 Limitations of the study

The study was conducted within the energy sector, making it industry specific. As each industry is unique, it is good to focus answers on a limited area. Also, the energy sector has its own specific attributes in terms of being quite technology-oriented and not always very people-centered. Inside the area, however, it is noted that responding companies vary quite significantly and have differences in size, finances, and budgeting. These attributes automatically affect the available means and mindsets of businesses regarding their talent management practices. A heat pump installing business that has less than 10 employees, is not likely to invest strongly in their people management practices if they don't have the resources for it.

On the other hand, getting a diverse group of companies to respond to the study's questionnaire is a welcome attribute with respect to the common themes obtained through their answers. If companies, which are in the same industry but differ in terms of their sizes and operations, answer questions similarly, then conclusions can be made to generalize industry-specific needs. Along these lines, some commonalities were identified between the companies through the questionnaire.

The respondents had a clear timeframe to answer the questions. The answers were given mostly in a two-week period, although the possibility to answer the questionnaire was extended to four weeks. The usually busy month for the industry and approaching summer season obviously meant that many of the respondents were likely experiencing busy schedules. This could have affected the number of responders. One of the companies had two respondents, which could also have affected the validity of those answers. However, this was taken into account by assessing the median of those answers and it was an interesting phenomenon to see whether the answers from the two respondents differed from one another.

The questionnaire was quite widely distributed among diverse levels and roles within companies in the energy industry. It was directed not only at human resource management or organizations' strategic management positions but also at several other levels of employees. The number of responses could have been greater to form an even more encompassing picture of the field. However, the differences in the responding companies, as well as the in the levels of roles inside them, enhances the reliability of the study.

It is difficult to say whether the results would have been different had each responding company representative had the same job description such as, for instance, HR director. However, the

supposition is that, since the actual companies themselves also varied quite a bit in terms of size, specialization area, internationality, and location, their responses would still have been quite different from one another. This diversity of the companies, however, could also increase this study's reliability, as it means there is data from as many types of energy firms as possible. Reliability is of course not essential, or even possible, to show in a qualitative study.

As the study was of a qualitative nature, it was challenging to portray the results in a way that is comparable and measurable and, as such, the most useful for future consideration. Of course, this relies on the idea that most useful information needs to be numerically measurable in order to be able to derive results from it. With qualitative studies, often, the findings are—and should be—of a more abstract nature.

In repeating or continuing the study, its questions could be reworked and formed keeping the targets even more in mind. By narrowing down the number of recipients, it could be possible to formulate questions that speak to the recipients even more thoroughly. By lowering the number of recipients, however, the possibility of gaining enough answers could also simultaneously diminish.

Personal interviews with company representatives could be another interesting way to gain insight into the most in-depth workings of organizations. However, finding the right people to interview is always a difficult task. Gaining enough valuable information in an industry that is less than forthcoming in nature is a risk, due to the possibility that the data will be left quite scarce. This, in turn, may affect the overall findings of the study, and as such, the entire overall quality of the study.

7.4 Suggestions for further research

The energy sector has rarely been studied in terms of how it handles traditionally "soft" values, such as human relations, work–life balance, or people management. In other organizational areas, generally, research on these topics exists. The existing studies are often tied to their respective industries, signaling phenomena that are descriptive of the industry in question. Human resources and people management studies from various different fields could provide for a good opportunity to contrast them with the energy sector. Useful knowledge on how other industries deal with similar questions could be collected, and map out a formula of how the energy sector could benefit from it.

The resource-based view could also be studied further in terms of the energy and other industries, and consider what kinds of things it doesn't take into consideration, and whether it is lacking something. RBV's central theme to look inside the company and utilize the resources inside it to gain competitive advantage. However, what if the company structure would be one where the emphasis on people would be either impossible, difficult or unnecessary? And even if these human

capital resources would be in a key position, can one properly determine the importance of other resource groups, especially if humans are still ultimately the ones who control them? The option of not having humans involved in a company at all, or having them involved only for a fraction, is still an intriguing one. The emerging technologies of artificial intelligence could bring some answers to this question.

It would be interesting to continue this study as an extensive study on internal communications within large- or mid-sizes energy companies. The study could be conducted on one or more companies, using a comparative analysis to draw conclusions. The questions the study could handle communication affecting the company and enhancing the morale of its people. Another issue of interest could be communication's interconnected links with the human resources and strategic management of the company. Furthermore, the talent of the people who handle communication in the business could be investigated.

An interesting aspect of communication is the emergence of social media. Platforms, such as Facebook and YouTube, have already made it possible for anyone to have a far-reaching voice about almost everything that happens in the world. Firms have even hired self-made social media personalities, and incorporating them into their businesses as spokespersons, professional bloggers, and promoters. It could be interesting to think whether the energy industry could benefit from this as well, especially when the industry has gained so much visibility in the media. What has become a growing concern among some of the more traditional professionals is whether education, accolades, and years of experience are fading into the background in comparison to these new and upcoming "amateur professionals" in social media. While the merits of educated specialist are undisputed, the question is, once again, who will the public listen to?

Another layer would be to compare these answers to another field of expertise. Let us take academic researchers as an example group. The situation with a research-oriented group is that sometimes they might not know how, or to whom, to communicate about their research. At the same time, there can be well-known people who have a strong voice but are without the same level of experience—and yet the world simply finds them interesting and listens to them. One can ponder whether such a situation is right or wrong. The only certain thing is that taking it into consideration is inevitable when considering various ways of influencing people in the future.

It would be very interesting to also relate the experiences of the employees in the industry into other aspects of their life, in a organization psychology study. How do their background, place of birth, and work history affect their ability and interest in venturing into new areas. For instance, is there

some personal background motivation for wanting to ride the wave of a more sustainable living and renewable energy choices – or is it just the opposite?

The idea of people-as-resources would be interesting to develop further. If the view emerging in this thesis could be used as a lens to re-examine the factors that firms currently think of as their most valuable resources, could there be a difference? It cannot be unequivocally stated that employees are the only significant resources in an organization nor that they would necessarily be the most valuable ones. The fact that people are the ones who control and determine the resources that businesses use beyond themselves would suggest that, at the very least, emphasis should also be placed on them in future studies within the technology industry.

8 REFERENCES

Al Ariss, A., Cascio, W. F. & Paauwe, J. (2014). Talent management: Current theories and future research directions. *Journal of World Business 49*(2), 173-179.

Angheluta, S.P., Margina, O., Zaharia, A. & Arionesei, G. (2014). The role of human resources in sustainable development of the energy sector. *Ecoforum 3*(1). Retrieved from https://doaj.org/article/8b2599cd2c2844c29a147246cab7441a

Auerbach, C. F. & Silverstein, L. B. (2003). *Qualitative Data: An Introduction to Coding and Analysis*. New York: New York University Press.

Axelrod, E. L., Handfield-Jones, H & Welsh, T. A. (2001). War for talent, part two. *The McKinsey Quarterly 2001*(2), 9-12.

Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management 17*(1), 99-120.

Barton, P. S. & Peters, D. H. (1992). The ASB Bank: an IT case study in sustained competitive advantage. *Journal of Strategic Information Systems 1*(3), 165-170.

Becker, G. S. (1993). *Human Capital.* Chicago, The United States of America: The University of Chicago Press.

Benedik, N. (2018). Business between Profitability and Sustainability. *IDEAS Working Paper Series from RePEc*. Retrieved from: https://ideas.repec.org/p/zag/wpaper/1803.html

Bollard, A., Larrea, E., Singla, A. & Sood, R. (2017). The next-generation operating model for the digital world. [online material]. Retrieved Aug 21, 2019 from https://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/the-next-generation-operating-model-for-the-digital-world.

Boudreau, J. W. & Ramstad, P. M. (2005). Talentship and the new paradigm for human resource management: From professional practices to strategic talent decision science. *Human Resource Planning 28*(2), 17.

Boudreau, J., Swan, M. & Doyle, A. (2016). The Big Disconnect in Your Talent Strategy and How to Fix It. *Harvard Business Review*. December 2016.

Boyd, B. K., Bergh, D. D. & Ketchen, D. J. (2010). Reconsidering the Reputation—Performance Relationship: A Resource-Based View. *Journal of Management 36*(3), 588-609.

Briscoe, J. P. & Hall, D. T. (1999). Grooming and picking leaders using competency frameworks: Do they work? An alternative approach and new guidelines for practice. *Organizational Dynamics 28*(2), 37-52.

Cappelli, P. (2008). Talent Management for the Twenty-First Century. *Harvard Business Review 86*(3), 74-81.

Cappelli, P. (2009). *Talent management for the twenty-first century* (1st ed). Köln: Luchterhand.

Cascio, W. & Boudreau, J. (2014). HR strategy: optimizing risks, optimizing rewards. *Journal of Organizational Effectiveness: People and Performance 1*(1), 77-97.

Catalant. (2019). Business Agility Software that Works. [online material]. Retrieved Aug 20, 2019 from https://www.gocatalant.com.

Chambers, E. G., Foulon, M., Handfield-Jones, H., Hankin, S. M. & Michaels, E. G. (1998). The war for talent. *The McKinsey Quarterly 1*(3), 44-57.

Collings, D.G. & Mellahi, K. (2009). Strategic talent management: A review and research agenda. *Human Resource Management Review 19*(4), 304-313.

Coyne, K. P. (1986). Sustainable competitive advantage—What it is, what it isn't. *Business Horizons 29*(1), 54-61.

Crook, T. R., Ketchen, D. J., Combs, J. G. & Todd, S. Y. (2008). Strategic resources and performance: a meta-analysis. *Strategic Management Journal 29*(11), 1141-1154.

Dessler, G. (2011). *Human Resource Management* (7th ed). Englewood Cliffs, New Jersey: Prentice Hall.

Dries, N. & Pepermans, R. (2007). "Real" high-potential careers. *Personnel Review 37*(1), 85-108.

Duunitori. (2019, Aug 27). *Avoimet työpaikat Energia-ala.* Retrieved Aug 27, 2019 from https://duunitori.fi/tyopaikat/?haku=energia-ala

Energy & Utility Skills. (2014, Aug 28). 2014 Skills Needs Review. [online material]. Retrieved from https://www.euskills.co.uk/sites/default/files/2014%20Skills%20Needs%20Review.pdf

Fahy, J, & Smithee, A. (1999). Strategic Marketing and the Resource Based View of the Firm. *Academy of Marketing Science Review 1999*, 1.

Farndale, E., Scullion, H. & Sparrow, P. (2010). The role of the corporate HR function in global talent management. *Journal of World Business 45*(2), 161-168.

Finnish Energy. (2019). Finnish Energy is creating a sustainable society. Retrieved on Aug 21, 2019 from https://energia.fi/en.

Finnish Energy. (2016). *Energiateollisuuden työmarkkinaskenaario*. [online material]. Retrieved on Aug 21, 2019 from https://energia.fi/files/310/tyomarkkinat_2025_loppuraportti.pdf.

Flanagan, D. & O'Shaughnessy, K. (2005). The effects of layoffs on firm reputation. *Journal of Management 31*(3), 445-463.

Fombrun, C. & Shanley, M. (1990). What's in a name? Reputation building and corporate strategy. *Academy of Management Journal 33*(2), 233.

Gardas, B., Mangla, S., Raut, R., Narkhede, B. & Luthra, S. (2019). Green talent management to unlock sustainability in the oil and gas sector. *Journal of Cleaner Production 229*, 850-862.

Ghemawat, P. (1986). Sustainable Advantage. *Harvard Business Review 64*(5), 53.

Goldin, C. (2016). Human Capital. *Handbook of Cliometrics.* Heidelberg, Germany: Springer Verlag.

Grenny, J. & Maxfield, D. (2016). Leaders Need Different Skills to Thrive in Tech. *Harvard Business Review*. Leadership Development.

Harari, Y. N. (2015). *Homo Deus: A Brief History of Tomorrow*. Israel: Harvill Secker.

Hart, P. (2016). Keeping Top Talent. *Midstream Business Magazine* March 2016.

Havu, H. (2016). *Employee retention in Finnish IT companies: perspectives of HR professionals.* (Master's Thesis). Aalto University, Helsinki, Finland.

Hunt, S. D. (2013). A general theory of business marketing: R-A theory, Alderson, the ISBM framework, and the IMP theoretical structure. *Industrial Marketing Management 42*(3), 283-293.

Ibrahim, S. N., & Zayed, A. (2018). The Impact of the Integrated Talent Management on the Competitive Advantage in Multinational Corporations. *International Journal of Academic Research in Business and Social Sciences, 8*(7), 221–237.

Ighodaro, C. A. U. (2010). Co-integration and causality relationbodship between energy consumption and economic growth: Further empirical evidence for Nigeria. *Journal of Business Economics and Management 11*(1), 97-111.

Intergovernmental Panel on Climate Change. (2018). Global Warming of 1.5 C. [online material]. Retrieved Aug 28, 2019 from https://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf.

International Atomic Energy Agency. (2016). Managing Human Resources in the Field of Nuclear Energy. *IAEA Nuclear Energy Series NG-G-2.1*.

Kenton, W. (2019). Intangible Asset. [online material]. Retrieved March 1, 2019 from https://www.investopedia.com/terms/i/intangibleasset.asp.

Kessler, E. (2013). *Encyclopedia of Management Theory.* Thousand Oaks, California: Sage.

Kipley, D., Lewis, A. O. & Jeng, J-L. (2012). Extending Ansoff's Strategic Diagnosis Model: Defining the Optimal Strategic Performance Positioning Matrix. *SAGE Open 2*(1).

Kleinert, R., DeRocco, E. S., Chaudhuri, A. & Maciejewski, R. (2010). Tailored to the Bottom Line: People management practices and profitability in manufacturing. *Deloitte Insights*. Retrieved from https://www2.deloitte.com/us/en/insights/deloitte-review/issue-7/tailored-to-the-bottom-line-people-management-practices-and-profitability-in-manufacturing.html

Knott, P. J. (2015). Does VRIO help managers evaluate a firm's resources? *Management Decision 53*(8), 1806-1822.

Lewis, R. E. & Heckman, R. J. (2006). Talent management: A critical review. *Human Resource Management Review 16*(2), 139-154.

Lo Presti, A. (2009). Snakes and ladders: stressing the role of meta-competencies for post-modern careers. *International Journal for Educational and Vocational Guidance 9*(2), 125-134.

Lowson, R. H. (2002). Strategic Operations Management — The New Competitive Advantage? *Journal of General Management 28*(1), 36-56.

Martín-Alcázar, F, Romero-Fernández, P. M. & Sánchez-Gardey, G. (2005). Strategic human resource management: integrating the universalistic, contingent, configurational and contextual perspectives. *The International Journal of Human Resource Management 16*(5), 633-659.

McDonnell, A., Lamare, R. Gunnigle, P. & Lavelle, J. (2010). Developing tomorrow's leaders - Evidence of global talent management in multinational enterprises. *Journal of World Business 45*(2), 150.

Meyers, M. C., Van Woerkom, M. & Dries, N. (2013). Talent – Innate or acquired? Theoretical considerations and their implications for talent management. *Human Resource Management Review 23*(4), 305-321.

Michaels, E., Handfield-Jones, H. & Axelrod, E. L. (2001). *The war for talent.* United States: Harvard Business Press.

Moisander, J. & Valtonen, A. (2006). *Qualitative Marketing Research Methods: A Cultural Approach*. London: Sage.

Morris, S., Snell, S. & Björkman, I. (2016). An architectural framework for global talent management. *Journal of International Business Studies 47*(6), 723-747.

Mäkelä, K., Björkman, I. & Ehrnrooth, M. (2016). An architectural framework for global talent management. *Journal of International Business Studies 47*(6), 723-747.

Oikotie. (2019, Aug 27). *Avoimet työpaikat energia*. Retrieved from https://tyopaikat.oikotie.fi/haku?jq=energia&sort_by=score

Oliver, C. (1997). Sustainable competitive advantage: combining institutional and resource-based views. *Strategic Management Journal 18*(9), 697-713.

Pereira, C. R., Lago Da Silva, A. & Tate, W. L. (2016). The Role of Purchasing and Supply Management (PSM) in Supply Chain Resilience. *XXXIX Encontro da ANPAD - EnANPAD 2015*.

Porter, M. (1990). The Competitive Advantage of Nations. *Harvard Business Review 68*, 73-93.

Prahalad, C. K. & Hamel, G. (1990). The Core Competence of the Corporation. *Harvard Business Review 68*(3), 79-91.

Priem, R. L. & Butler, J. E. (2001). Is the resource-based "view" a useful perspective for strategic management research? *Academy of Management Review 26*(1), 22.

Radicchi, E. & Mozzachiodi, M. (2016). Social Talent Scouting: A New Opportunity for the Identification of Football Players? *Physical Culture and Sport: Studies and Research 70*(1), 28-43.

Reyes, K. (2017). You Want The Original Snowflake Test? Here It Is. [online material]. Retrieved Aug. 28, 2019 at https://newbostonpost.com/blogs/you-want-the-original-snowflake-test-here-it-is/

Rindova, V. P., Williamson, I. O., Petkova, A. P. & Sever, J. M. (2005). Being good or being known: An empirical examination of the dimensions, antecedents, and consequences of organizational reputation. *Academy of Management Journal 48*(6), 1033-1049.

Rinne, S., Auvinen, K., Reda, F., Ruggiero, S. & Temmes, A. (2018, Nov 28). *Clean district heating – how can it work?* Retrieved from http://smartenergytransition.fi/wp-content/uploads/2018/11/Clean-DHC-discussion-paper_SET_2018.pdf

Rumelt, R. P. (1984). Towards a Strategic Theory of the Firm. *Competitive Strategic Management 26*, 556-570.

Saldana, J. (2009). *The coding manual for qualitative researchers*.

Schmidt, F. L. & Hunter, J. E. (1993). Tacit Knowledge, Practical Intelligence, General Mental Ability, and Job Knowledge. *Current Directions in Psychological Science February 2*(1), 8-9.

Schultz, T. W. (1961). Investment in Human Capital. *American Economic Review 51*, 1-17.

Scullion, H., Collings, D. G. & Caligiuri, P. (2010). Global talent management. *Journal of World Business 45*(2), 105-108.

Sridhar, K. (2013). Employment branding at Google: a challenge to attract and build talent. *International Journal of Sustainable Society 5*(4), 350-356.

Spencer-Percival, D. (2014). Dire Skills Straits. *Utility Week* Oct 10-Oct 16, 2014, 25.

Srivastava, P. & Bhatnagar, J. (2008). Talent acquisition due diligence leading to high employee engagement: case of Motorola India MDB. *Industrial and Commercial Training 40*(5), 253-260.

Stahl, G. K., Björkman, I., Farndale, E., Morris, S. S., Paauwe, J., Stiles, P., Trevor, J. & Wright, P. M. (2007). Global Talent Management: How Leading Multinationals Build and Sustain Their Talent Pipeline. *INSEAD Working Papers Collection 34*, 1-36.

Stiles, P. & Kulvisaechana, S. (2003). Human capital and performance: A literature review. University of Cambridge: Judge Institute of Management.

Teece, D. J., Pisano, G. & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal 18*(7), 509-533.

Tetik, S. (2016). Talent Management: A Review of Theoretical Perspectives and a Guideline for Practioners. *Nile Journal of Business and Economics 4*, 40-56.

Thomas, G. & James, D. (2006). Re-inventing grounded theory: some questions about theory, ground and discovery. *British Educational Research Journal 32*(6), 767–795.

Tuomi, J. & Sarajärvi, A. (2002). *Laadullinen tutkimus ja sisällönanalyysi*. Helsinki: Tammi.

UpCounsel. (2019). The modern way to get legal work done. [online material]. Retrieved Aug 28, 2019 from https://www.upcounsel.com/.

Wang, H., Park, J-D. & Ren, Z. J. (2015). Practical energy harvesting for microbial fuel cells: a review. *Environmental science & technology 49*(6), 3267-3277.

Warner, K. J. & Jones, G. A. (2017). A population-induced renewable energy timeline in nine world regions. *Energy Policy 101*, 65-76.

Weiss, A. & MacKay, N. (2009). *The Talent Advantage: How to Attract and Retain the Best and the Brightest.* John Wiley & Sons.

9 APPENDICES

Appendix 1. Attributes of job advertisements in the energy sector (2019).

Energy businesses match the needs of the talent by **offering**:	Energy businesses challenge their talent by **expecting**:
• versatility • team spirit • global challenges • personal career tailoring	• diverse understanding of needed technologies • problem solving skills • planning ahead

• safe environment • healthcare • bonuses • job safety • steady employment • responsibility • growing and developing company • competitive pay • personnel benefits • career advancement possibilities • professional team support • good working atmosphere • flexible working culture • professional development • wide networks • useful contacts • learning • expert support • quality introduction • challenging working field • full-time job • a company with means • independency • sports and culture benefits • company car • internationality • future building • interacting with multiple cultures • fulfill career dreams • work with quality solutions and services • relaxed working culture	• taking initiative • collaboration skills • customer orientation • fluent English • education of the field • good communication skills • work in shifts • work experience • people skills • management skills • determination • ability to finish projects • knowledge of the field • independence • preciseness • following regulations • vision • project management skills • network creation skills • positivity • customer service attitude • flexibility • adjusting to surprising circumstances • energetic work method • eagerness to learn new things • ability to use IT programs • motivation • engineering background • longevity • responsibility • digital knowledge • management experience

• appreciation • becoming a professional • diverse clients • responsibility • modern equipment • chance to develop a team • cutting-edge industry • broad view of the field • interesting projects • energetic atmosphere • environmental responsibility • help of colleagues • practical assignments • chance to affect pay grade • work in evenings and weekends • career advancement possibilities • experienced colleagues • value-adding processes • training possibilities • career launch • flexible working hours • strong organization support • long fixed-term contract • deepening knowledge • agile practices • forward-looking organization • growing conglomerate • chance to present bold visions • traveling • meaningful work • developing project skills • gather work experience	• practicality • interest • working in a global environment • willingness to travel • team player • efficiency • showing potential • active way of working • deduction skills • functionality understanding • technology knowledge • Excel skills • result-seeking attitude • willingness to do mobile work • predictive work • systematic work • self-guided work • use of own car • diverse work experience • understanding strategic goals • recognizing large entities • attention to details • working efficiently under pressure • analytical skills • IT knowledge • reporting experience • commitment to safety practices • curiosity • geographic information knowledge • positive life attitude • driver’s license • adaptability to changing work rhythms

• progressive environment • benefits of a large company • being a personnel priority • important work • comprehensive introduction training period • youthful and humorous team • high employee satisfaction rates • role expansion in the future • long-distance work • work-life balance • fair work team	• willingness to make profit • knowledge of industry standards • ability to work also in other positions • occupational safety card • long-term commitment • developing services • ability to learn new things • good attitude • understanding being part of a team • proactive attitude to work • agility in learning new systems • design program knowledge • experience in design tasks • ability to handle multiple tasks side by side • finding solutions • industry-specific code knowledge • mathematic knowledge • local area knowledge • trust-building way to work • industry boundary -crossing knowledge • fearless attitude